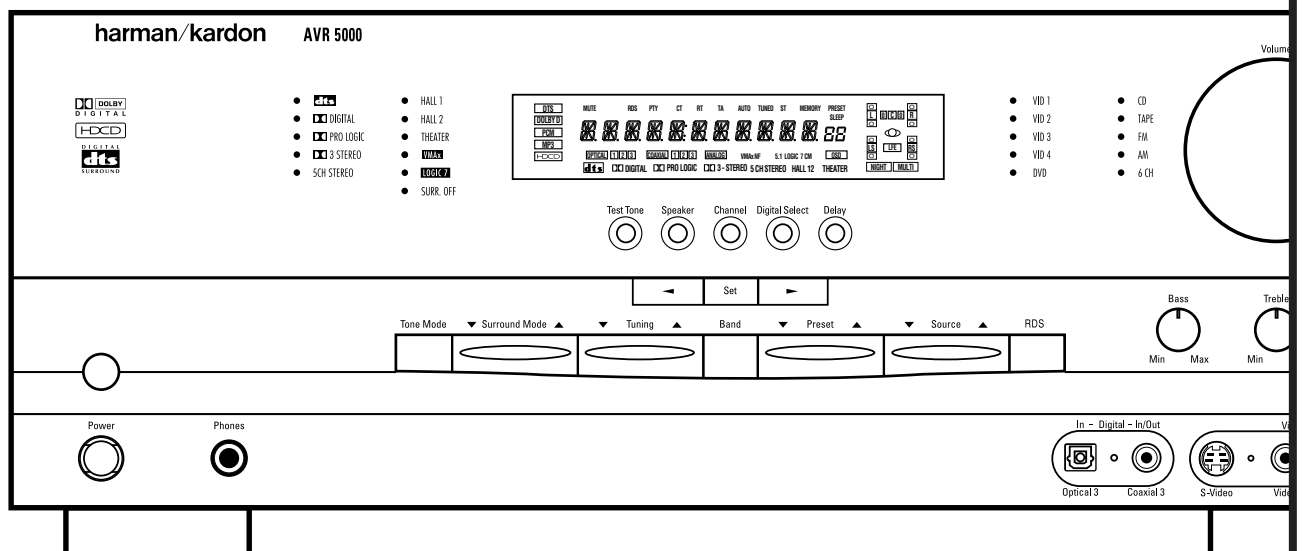


AVR 5000 Audio/Video Receiver

OWNER'S MANUAL



harman/kardon®

Power for the Digital Revolution™

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Declaration of Conformity



We, Harman Consumer International
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72500 Château-du-Loir,
FRANCE

declare in own responsibility, that the product described in this owner's manual is in compliance with technical standards:

EN 55013/6.1990

EN 55020/12.1994

EN 60065:1993

EN 61000-3-2/4.1995

Carsten Olesen
Harman Kardon Europe A/S
11/00

Typographical Conventions

In order to help you use this manual with the remote control, front-panel controls and rear-panel connections, certain conventions have been used.

EXAMPLE – (bold type) indicates a specific remote control or front-panel button, or rear-panel connection jack

EXAMPLE – (OCR type) indicates a message that is visible on the front-panel information display

1 – (number in a square) indicates a specific front-panel control

① – (number in a circle) indicates a rear-panel connection

① – (number in an oval) indicates a button or indicator on the remote

A – (letter in a square) indicates an indicator in the front-panel display

Ⓐ – (letter in an oval) indicates a button on the Zone II remote

Introduction

Thank you for choosing Harman Kardon!

With the purchase of a Harman Kardon AVR5000 you are about to begin many years of listening enjoyment. The AVR5000 has been custom designed to provide all the excitement and detail of movie sound tracks and every nuance of musical selections. With onboard Dolby* Digital and DTS* decoding, the AVR5000 delivers six discrete channels of audio that take advantage of the digital sound tracks from the latest DVD and LD releases and Digital Television broadcasts.

While complex digital systems are hard at work within the AVR5000 to make all of this happen, hookup and operation are simple. Color-keyed connections, a backlit, programmable and learning remote control, and on-screen menus make the AVR5000 easy to use. To obtain the maximum enjoyment from your new receiver, we urge you to take the time to read through this manual. This will ensure that connections to speakers, source playback units and other external devices are made properly. In addition, a few minutes spent learning the functions of the various controls will enable you to take advantage of all the power the AVR5000 is able to deliver.

If you have any questions about this product, its installation or its operation, please contact your dealer. He is your best local source of information.

Description and Features

The AVR5000 is among the most versatile and multi-featured A/V receivers available, incorporating a wide range of listening options. In addition to Dolby Digital and DTS decoding for digital sources, a broad choice of analog surround modes are available for use with sources such as CD, VCR, TV broadcasts and the AVR's own FM/AM tuner. Along with Dolby Pro Logic*, Dolby 3 Stereo, 5 Ch Stereo and custom Hall and Theater modes, only Harman Kardon receivers offer Logic 7® to create a wider, more enveloping field environment and more defined fly-overs and pans.

Finally, the AVR5000 is among the very few A/V receivers that offer decoding of MP3 data, so that you may listen to the latest music selections directly from compatible computers or playback devices with the power and fidelity you expect from Harman Kardon.

Another Harman Kardon exclusive is VMAx™, which uses proprietary processing to create an open, spacious sound field even when only two front speakers are available.

The AVR 5000 is also able to offer HDCD® decoding to provide the most realistic playback of CDs when a digital connection is used, even with a normal non-HDCD-compatible CD or DVD player.

In addition to providing a wide range of listening options, the AVR5000 is easy to configure so that it provides the best results with your speakers and specific listening-room environment. On-screen menus make it simple to enter settings for speakers, inputs and delay times, while our exclusive EzSet™ remote measures a system's sound levels and automatically calibrates them for perfectly balanced soundfield presentation.

For the ultimate in flexibility, the AVR5000 features connections for five video devices, all with both composite and S-Video inputs. Two additional audio inputs are available, and a total of six digital inputs make the AVR5000 capable of handling all the latest digital audio sources. For compatibility with the latest DVD players and digital video products, the AVR5000 also features component video switching. Coax and optical digital outputs are available for direct connection to digital recorders, and both the front panel analog audio/video and the coaxial digital jacks may be switched to an output for use with portable recorders – a Harman Kardon exclusive. Two video recording outputs, preamp-out/main-in jacks, and a six channel input make the AVR5000 virtually future-proof, with everything needed to accommodate tomorrow's new formats right on board.

The AVR5000's flexibility and power extend beyond your main home theater or listening room. The AVR includes a sophisticated multi-zone control system that allows you to select one source for use in the main room and a different one in a second room. Left and right front channel audio is routed to the remote room location, with complete control over volume provided by a separate infrared control link. To make it easy to operate the AVR 5000 from a remote room, a separate Zone II remote is included.

The AVR5000's powerful amplifier uses traditional Harman Kardon high-current design technologies to meet the wide dynamic range of any program selection.

Harman Kardon invented the high-fidelity receiver more than forty-seven years ago. With state-of-the-art circuitry and time-honored circuit designs, the AVR5000 is one of the finest receivers ever offered by Harman Kardon.

- **Onboard Dolby Digital and DTS Decoding Using Crystal® Chip Technology**
- **Harman Kardon's Exclusive Logic 7 and VMAx Modes**
- **MP3 Decoding for Use with compatible Computers and Digital Audio Players**
- **EzSet™ Remote Automatically Sets Output Levels for Optimum Performance**
- **Front-Panel Analog A/V Inputs switchable to Outputs**
- **Front-Panel Digital Inputs and Coax Digital Output Capability for Easy Connection to Portable Digital Devices and the Latest Video Game Consoles**
- **Multiple Digital Inputs and Outputs**
- **On-Screen Menu and Display System**
- **6-Channel Direct Input and Preamp Outputs and Main Amp Inputs for Easy Expansion and Use with Future Audio Formats**
- **Complete Multi-Zone System with Separate "Zone II" Remote Included™**
- **Main Backlit Remote with Internal Codes and Learning Capability**
- **HDCD Decoding for Superb CD Playback**
- **Component Video Switching**

Safety Information

Important Safety Information

Verify Line Voltage Before Use

Your AVR5000 has been designed for use with 220-240-Volt AC current. Connection to a line voltage other than that for which it is intended can create a safety and fire hazard and may damage the unit.

If you have any questions about the voltage requirements for your specific model, or about the line voltage in your area, contact your dealer before plugging the unit into a wall outlet.

Do Not Use Extension Cords

To avoid safety hazards, use only the power cord attached to your unit. We do not recommend that extension cords be used with this product. As with all electrical devices, do not run power cords under rugs or carpets or place heavy objects on them. Damaged power cords should be replaced immediately by an authorized service depot with a cord meeting factory specifications.

Handle the AC Power Cord Gently

When disconnecting the power cord from an AC outlet, always pull the plug, never pull the cord. If you do not intend to use the unit for any considerable length of time, disconnect the plug from the AC outlet.

Do Not Open the Cabinet

There are no user-serviceable components inside this product. Opening the cabinet may present a shock hazard, and any modification to the product will void your guarantee. If water or any metal object such as a paper clip, wire or a staple accidentally falls inside the unit, disconnect it from the AC power source immediately, and consult an authorized service station.

Installation Location

- To assure proper operation and to avoid the potential for safety hazards, place the unit on a firm and level surface. When placing the unit on a shelf, be certain that the shelf and any mounting hardware can support the weight of the product.
- Make certain that proper space is provided both above and below the unit for ventilation. If this product will be installed in a cabinet or other enclosed area, make certain that there is sufficient air movement within the cabinet. Under some circumstances a fan may be required.
- Do not place the unit directly on a carpeted surface.
- Avoid installation in extremely hot or cold locations, or an area that is exposed to direct sunlight or heating equipment.
- Avoid moist or humid locations.
- Do not obstruct the ventilation slots on the top of the unit, or place objects directly over them.

Cleaning

When the unit gets dirty, wipe it with a clean, soft, dry cloth. If necessary, wipe it with a soft cloth dampened with mild soapy water, then a fresh cloth with clean water. Wipe dry immediately with a dry cloth. NEVER use benzene, aerosol cleaners, thinner, alcohol or any other volatile cleaning agent. Do not use abrasive cleaners, as they may damage the finish of metal parts. Avoid spraying insecticide near the unit.

Moving the Unit


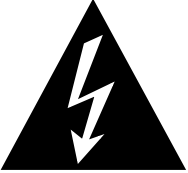
Before moving the unit, be certain to disconnect any interconnection cords with other components, and make certain that you disconnect the unit from the AC outlet.

Unpacking

The carton and shipping materials used to protect your new receiver during shipment were specially designed to cushion it from shock and vibration. We suggest that you save the carton and packing materials for use in shipping if you move, or should the unit ever need repair.


To minimize the size of the carton in storage, you may wish to flatten it. This is done by carefully slitting the tape seams on the bottom and collapsing the carton. Other cardboard inserts may be stored in the same manner. Packing materials that cannot be collapsed should be saved along with the carton in a plastic bag.

If you do not wish to save the packaging materials, please note that the carton and other sections of the shipping protection are recyclable. Please respect the environment and discard those materials at a local recycling center.




CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



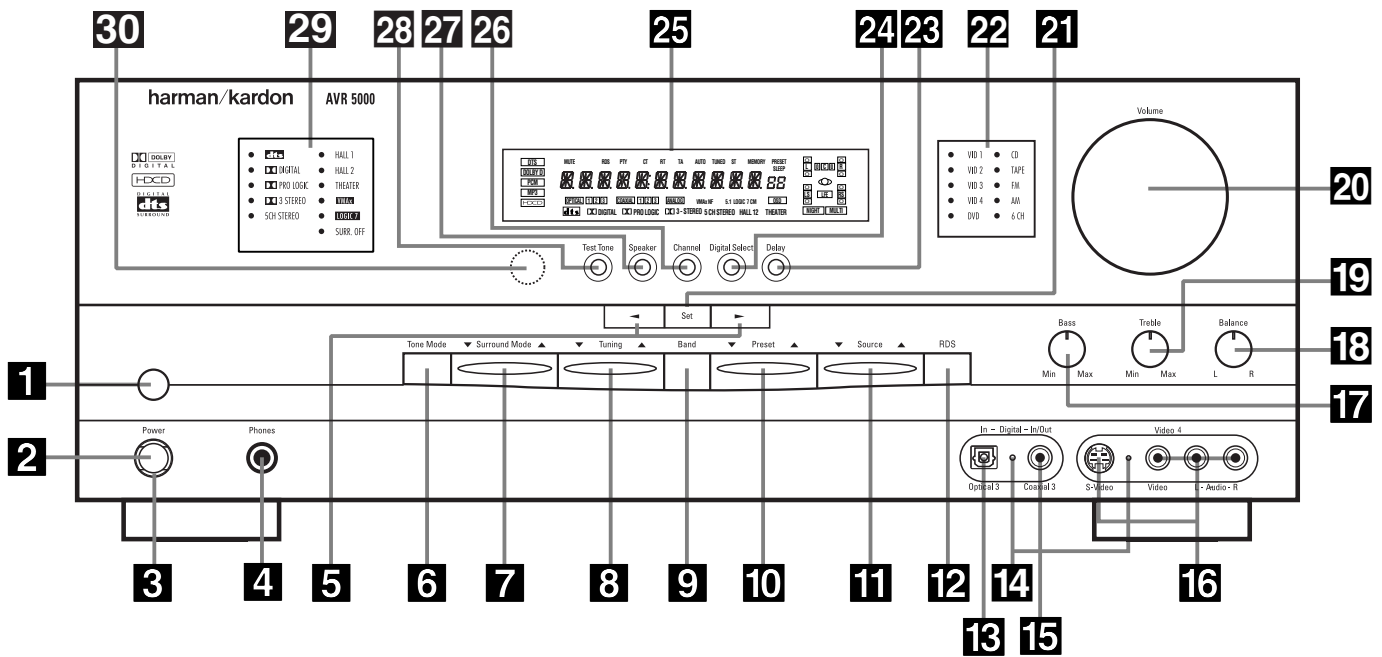
The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Front Panel Controls



- 1 Main Power Switch
- 2 System Power Control
- 3 Power Indicator
- 4 Headphone Jack
- 5 Selector Buttons
- 6 Tone Mode
- 7 Surround Mode Selector
- 8 Tuning Selector
- 9 Tuner Band Selector
- 10 Preset Stations Selector

- 11 Input Source Selector
- 12 RDS Select Button
- 13 Digital Optical 3 Input
- 14 Input/Output Status Indicators
- 15 Digital Coax 3 Jack
- 16 Video 4 Jacks
- 17 Bass Control
- 18 Balance Control
- 19 Treble Control
- 20 Volume Control

- 21 Set Button
- 22 Input Indicators
- 23 Delay
- 24 Digital Input Selector
- 25 Main Information Display
- 26 Channel Select Button
- 27 Speaker Select Button
- 28 Test Tone Selector
- 29 Surround Mode Indicators
- 30 Remote Sensor Window

1 Main Power Switch: Press this button to apply power to the AVR5000. When the switch is pressed in, the unit is placed in a Standby mode, as indicated by the amber LED **3** surrounding the **System Power Control** **2**. This button **MUST** be pressed in to operate the unit. To turn the unit off completely and prevent the use of the remote control, this switch should be pressed until it pops out from the front panel so that the word "OFF" may be read at the top of the switch.

NOTE: This switch is normally left in the "ON" position.

2 System Power Control: When the **Main Power Switch** **1** is "ON," press this button to turn on the AVR5000; press it again to turn the unit off (to Standby). Note that the **Power Indicator** surrounding the switch **3** will turn green when the unit is on.

3 Power Indicator: This LED will be illuminated in amber when the unit is in the Standby mode to signal that the unit is ready to be turned on. When the unit is in operation, the indicator will turn green.

4 Headphone Jack: This jack may be used to listen to the AVR5000's output through a pair of headphones. Be certain that the headphones have a standard 6.3 mm stereo phone plug. Note that the main room speakers and all Preamp Outputs **11** will automatically be turned off when the headphone jack is in use.

5 Selector Buttons: When you are establishing the AVR5000's configuration settings, use these buttons to select from the choices available, as shown in the **Main Information Display** **25**.

6 Tone Mode: Pressing this button enables or disables the Balance, Bass and Treble tone controls. When the button is pressed so that the words **TONE IN** appear in the **Main Information Display** **25**, the settings of the **Bass** **17** and **Treble** **19** controls and of the **Balance** control **18** will affect the output signals. When the button is pressed so that the words **TONE OUT** appear in the **Main Information Display** **25**, the output signal will be "flat," without any balance, bass or treble alteration.

Front Panel Controls

7 Surround Mode Selector: Press this button to change the surround mode by scrolling through the list of available modes. Note that Dolby Digital and DTS modes can be selected only when a digital input is used (See page 28 for more information about surround modes.)

8 Tuning Selector: Press the left side of the button to tune lower frequency stations and the right side of the button to tune higher frequency stations. When a station with a strong signal is reached, the **TUNED** indicator **W** will illuminate in the **Main Information Display 25** (see page 33 for more information on tuning stations).

9 Tuner Band Selector: Pressing this button will automatically switch the AVR to the Tuner mode. Pressing it again will switch between the AM and FM frequency bands, holding it pressed for some seconds will switch between stereo and mono receiving and between automatic and manual tuning mode (See page 33 for more information on the tuner).

10 Preset Stations Selector: Press this button to scroll up or down through the list of stations that have been entered into the preset memory. (See page 33 for more information on tuner programming.)

11 Input Source Selector: Press this button to change the input by scrolling through the list of input sources.

12 RDS Select Button: Press this button to display the various messages that are part of the RDS data system of the AVR5000's tuner. (See page 34 for more information on RDS).

13 Digital Optical 3 Input: Connect the optical digital audio output of an audio or video product to this jack. When the Input is not in use, be certain to keep the plastic cap installed to avoid dust contamination that might degrade future performance.

14 Input/Output Status Indicators: These LED indicators will normally light green to show that the front panel Video 4 A/V jacks or the Coaxial 3 digital jack is operating as an input. When either of these jacks has been configured for use as an output, the indicator will turn red to show that the jack may be used for recording. (See page 21 for more information on configuring the front panel jacks as outputs, rather than inputs.)

15 Digital Coax 3 Jack: This jack is normally used for connection to the output of portable audio devices, video game consoles or other products that have a coax digital jack. It may also be configured as an output jack, to feed a digital signal to a CD-R, MiniDisc or other digital recording device. (See page 21 for information on configuring the Digital Coax 3 Jack to an output.)

16 Video 4 Jacks: These audio/video jacks may be used for temporary connection to video games or portable audio/video products such as camcorders and portable audio players. They may also be configured as output jacks to feed a signal to any recording Audio or Video device (see page 21 for more information).

17 Bass Control: Turn this control to modify the low frequency output of the left/right channels by as much as $\pm 10\text{dB}$. Set this control to a suitable position for your taste or room acoustics.

18 Balance Control: Turn this control to change the relative volume for the front left/right channels.

NOTE: For proper operation of the surround modes this control should be at the midpoint or "12 o'clock" position.

19 Treble Control: Turn this control to modify the high frequency output of the left/right channels by as much as $\pm 10\text{dB}$. Set this control to a suitable position for your taste or room acoustics.

20 Volume Control: Turn this knob clockwise to increase the volume, counterclockwise to decrease the volume. If the AVR is muted, adjusting volume control will automatically release the unit from the silenced condition.

21 Set Button: When making choices during the setup and configuration process, press this button to enter the desired setting as shown in the **Main Information Display 25** into the AVR5000's memory. The set button may also be used to change the display brightness. (See page 36.)

22 Input indicators: A green LED will light in front of the input that is currently being used as the source for the AVR5000.

23 Delay: Press this button to begin the sequence of steps required to enter delay time settings. (See pages 23 for more information on delay times.)

24 Digital Input Selector: When playing a source that has a digital output, press this button to select between the **Optical 13 28** and **Coaxial 15 29 Digital** inputs. (See pages 29-31 for more information on digital audio.)

25 Main Information Display: This display delivers messages and status indications to help you operate the receiver. (See pages 7-8 for a complete explanation of the Information Display.)

26 Channel Select Button: Press this button to begin the process of trimming the channel output levels using an external audio source. (For more information on output level trim adjustment, see page 32.)

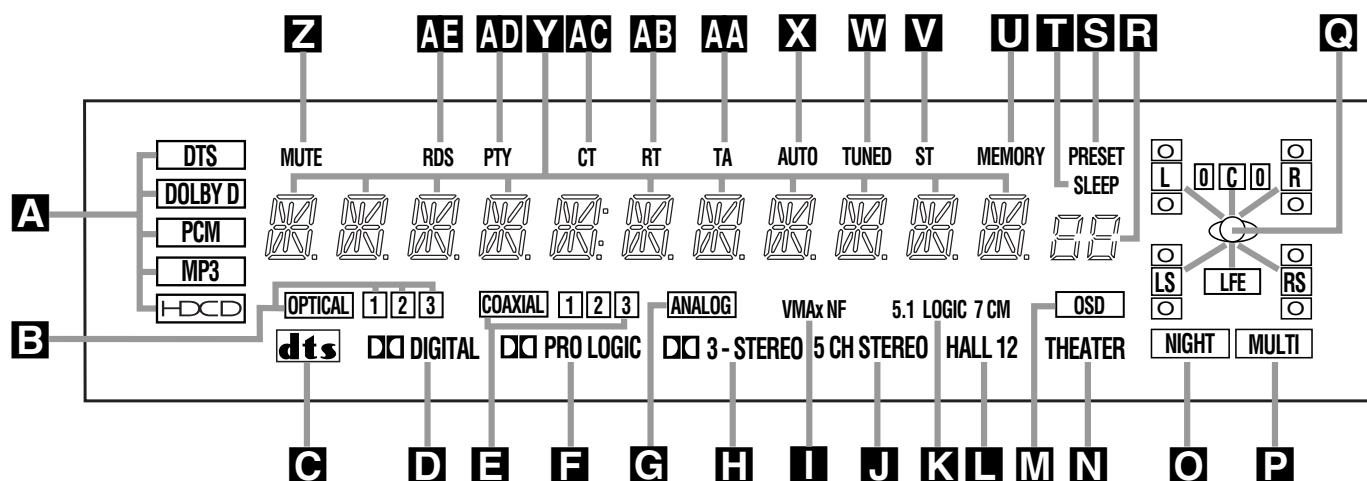
27 Speaker Select Button: Press this button to begin the process of selecting the speaker positions that are used in your listening room. (See page 22 for more information on setup and configuration.)

28 Test Tone Selector: Press this button to begin the process of adjusting the channel output levels using the internal test tone as a reference. (For more information on output level adjustment, see page 26.)

29 Surround Mode Indicators: A green LED will light in front of the surround mode that is currently in use.

30 Remote Sensor Window: The sensor behind this window receives infrared signals from the remote control. Aim the remote at this area and do not block or cover it unless an external remote sensor is installed.

Front Panel Information Display



- A** Bitstream Indicators
- B** Optical Source Indicators
- C** DTS Mode Indicator
- D** Dolby Digital Indicator
- E** Coaxial Source Indicators
- F** Dolby Pro Logic Indicator
- G** Analog Input Indicator
- H** Dolby 3 Stereo Indicator
- I** VMAx Mode Indicator
- J** 5 Channel Stereo Indicator
- K** Logic 7 Mode Indicators

- L** Hall Mode Indicator
- M** OSD Indicator
- N** Theater Mode Indicator
- O** Night Mode Indicator
- P** Multiroom Indicator
- Q** Speaker/Channel Input Indicators
- R** Preset Number/Sleep Timer
- S** Preset Indicator
- T** Sleep Indicator
- U** Memory Indicator
- V** Stereo Indicator

- W** Tuned Indicator
- X** Auto Indicator
- Y** Main Information Display
- Z** Mute Indicator
- AA** Traffic Indicator
- AB** Radiotext Indicator
- AC** Clock Timer Indicator
- AD** Program Type Indicator
- AE** RDS Indicator

A Bitstream™ Indicators: When the input is a digital source, one of these indicators will light to display the specific type of signal in use.

B Optical Source Indicators: These indicators light to show when a Optical Digital Input has been selected.

C DTS Mode Indicator: This indicator illuminates when the DTS mode is selected.

D Dolby Digital Indicator: This indicator illuminates when Dolby Digital mode is selected.

E Coaxial Source Indicators: These indicators light to show when a Coaxial Digital Input has been selected.

F Dolby Pro Logic Indicator: This indicator lights when the Dolby ProLogic mode has been selected.

G Analog Input Indicator: This indicator lights when an analog input source has been selected.

H Dolby 3 Stereo Indicator: This indicator lights when the Dolby 3 Stereo Mode has been selected.

I VMAx Mode Indicator: This indicator illuminates to show that the VMAx mode is in use. **VMAx F** appears when the Far Field VMAx mode is selected; **VMAx N** appears when the Near Field VMAx mode is selected. (See page 28 for a description of the VMAx Modes.)

J 5 Channel Stereo Indicator: This indicator lights when the 5 Channel Stereo mode has been selected.

K Logic 7 Mode Indicators: These indicators illuminate when the Logic 7 mode is in use. **LOGIC 7C** appears for the Cinema version of Logic 7, **LOGIC 7M** appears for the Music version of Logic 7. (See page 28 for a description of the Logic 7 Modes.)

L Hall Mode Indicators: These indicators light when one of the Hall modes has been selected.

M OSD Indicator: When the OSD system is in use, this indicator lights to remind you that the other indicators in this display do not function when the On Screen Display is being used.

N Theater Mode Indicator: This indicator illuminates to show that the Theater mode is in use.

O Night Mode Indicator: This indicator lights when the AVR5000 is in the Night mode, which preserves the dynamic range of digital program material at low volume levels.

P Multiroom Indicator: This indicator lights when the multiroom system is active. Note that it will remain lit when the multiroom system is in use even though the main room system is in the Standby mode and all other indicators are dark. (See page 38 for more information on the Multiroom system.)

Q Speaker/Channel Input Indicators: These indicators are multipurpose, indicating either the speaker type selected for each channel or the incoming data-signal configuration. The left, center, right, right surround and left surround speaker indicators are composed of three boxes, while the subwoofer is a single box. The center box lights when a "Small" speaker is selected, and the two outer boxes light when "Large" speakers are selected. When none of the boxes are lit for the center, surround or subwoofer channels, no speaker has been selected for that position. (See page 22 for more information on configuring speakers.) The letters inside each of the center boxes display active input channels. For standard analog inputs, only the L and R will light, indicating a stereo input. When a digital source is playing, the indicators will light to display the channels begin received at the digital input. When the letters flash, the digital input has been interrupted. (See page 31 for more information on the Channel Indicators).

R Preset Number/Sleep Timer: When the tuner is in use, these numbers indicate the specific preset memory location in use. (See page 33 for more information on preset stations.) When the Sleep function is in use, these numbers show how many minutes remain before the unit goes into the Standby mode.

Front Panel Information Display

S Preset Indicator: This indicator lights when the tuner is in use to show that the **Preset Number/Sleep Timer R** is showing the station's preset memory number. (See page 33 for more information on tuner presets.)

T Sleep Indicator: This indicator lights when the Sleep function is in use. The numbers in the Preset/Sleep Number Indicators will show the minutes remaining before the AVR5000 goes into the Standby mode. (See page 27 for more information on the Sleep function.)


U Memory Indicator: This indicator flashes when entering presets and other information into the tuner's memory.

V Stereo Indicator: This indicator illuminates when an FM station is being tuned in stereo.

W Tuned Indicator: This indicator illuminates when a station is being received with sufficient signal strength to provide acceptable listening quality.

X Auto Indicator: This indicator illuminates when the tuner's Auto mode is in use.

Y Main Information Display: This display shows messages relating to the status, input source, surround mode, tuner, volume level or other aspects of unit's operation.

Z Mute Indicator: This indicator illuminates to remind you that the AVR5000's output has been silenced by pressing the **Mute** button  **38**. Press the Mute button again to return to the previously selected output level.

AA TA Traffic Announcement Indicator: This indicator illuminates if the RDS station tuned sometimes transmits traffic information (see page 34 for more information on RDS).

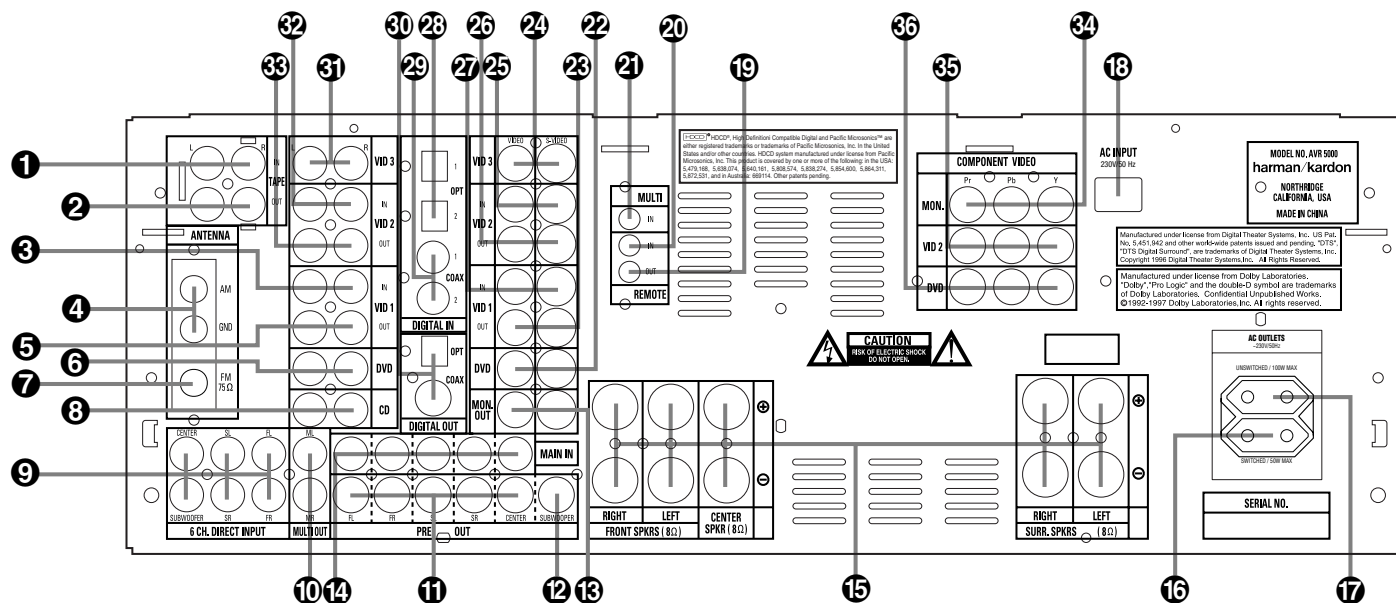
AB RT Text Indicator: This indicator illuminates when the RDS station tuned is transmitting radiotext (RT) data.

AC Clock Time Indicator: This indicator illuminates when the RDS station tuned is transmitting the CT (clock time) code, indicating the current time of day.

AD PTY Indicator: This indicator illuminates when the RDS station tuned is transmitting program type data, or during a PTY search.

AE RDS Indicator: This indicator illuminates when the station tuned is transmitting RDS data.

Rear Panel Connections



- 1 Tape Inputs
- 2 Tape Outputs
- 3 Video 1 Audio Inputs
- 4 AM Antenna
- 5 Video 1 Audio Outputs
- 6 DVD Audio Inputs
- 7 FM Antenna
- 8 CD Inputs
- 9 6-Channel Direct Inputs
- 10 Multiroom Outputs
- 11 Preamp Outputs
- 12 Subwoofer Output
- 13 Video Monitor Outputs
- 14 Amplifier Inputs

- 15 Speaker Outputs
- 16 Switched AC Accessory Outlet
- 17 Unswitched AC Accessory Outlet
- 18 AC Power Cord
- 19 Remote IR Output
- 20 Remote IR Input
- 21 Multiroom IR Input
- 22 DVD Video Inputs
- 23 Video 1 Video Outputs
- 24 Video 3 Video Inputs
- 25 Video 2 Video Inputs
- 26 Video 2 Video Outputs
- 27 Video 1 Video Inputs
- 28 Optical Digital Inputs

- 29 Coaxial Digital Inputs
- 30 Digital Audio Outputs
- 31 Video 3 Audio Inputs
- 32 Video 2 Audio Inputs
- 33 Video 2 Audio Outputs
- 34 Component Video Outputs
- 35 Video 2 Component Video Inputs
- 36 DVD Component Video Inputs

1 Tape Inputs: Connect these jacks to the **PLAY/OUT** jacks of an audio recorder.

2 Tape Outputs: Connect these jacks to the **RECORD/INPUT** jacks of an audio recorder.

3 Video 1 Audio Inputs: Connect these jacks to the **PLAY/OUT** audio jacks on a VCR or other video source.

4 AM Antenna: Connect the AM loop antenna supplied with the receiver to these terminals. If an external AM antenna is used, make connections to the **AM** and **GND** terminals in accordance with the instructions supplied with the antenna.

5 Video 1 Audio Outputs: Connect these jacks to the **RECORD/INPUT** audio jacks on a VCR or any other Audio recorder.

6 DVD Audio Inputs: Connect these jacks to the analog audio jacks on a DVD or other video source.

7 FM Antenna: Connect the supplied indoor or an optional external FM antenna to this terminal.

8 CD Inputs: Connect these jacks to the analog output of a compact disc player or CD changer.

9 6-Channel Direct Inputs: If an external digital audio decoder is used, connect the outputs of that decoder to these jacks.

10 Multiroom Outputs: Connect these jacks to an optional audio power amplifier to listen to the source selected by the multiroom system in a remote room.

11 Preamp Outputs: These jacks may be connected to an external power amplifier.

12 Subwoofer Output: Connect this jack to the line-level input of a powered subwoofer. If an external subwoofer amplifier is used, connect this jack to the subwoofer amplifier input.

Rear Panel Connections

13 Video Monitor Outputs: Connect these jacks to the composite and/or S-Video input of a TV monitor or video projector to view the on-screen menus and the output of any video source selected by the receiver's video switcher.

14 Amplifier Inputs: When the jumper pins that link the **Preamplifier Outputs 11** with these inputs are removed, these jacks may be used to connect any external 5.1 channel source (or 2 channel source, if only Main Inputs are used), e.g. processors, to the internal amplifiers. (See page 18 for more information on using these connections.)

15 Speaker Outputs: Connect these outputs to the matching + or – terminals on your speakers. When making speaker connections always make certain to maintain correct polarity by connecting the red (+) terminals on the AVR5000 to the red (+) terminals on the speakers and the black (–) terminals on the AVR5000 to the black (–) terminals on the speakers. See page 15 for more information on speaker polarity.

16 Switched AC Accessory Outlet: This outlet may be used to power any device that you wish to have turn on when the unit is turned on with the **System Power Control** switch **2**.

17 Unswitched AC Accessory Outlet: This outlet may be used to power any AC device. The power will remain on at this outlet regardless of whether the AVR5000 is on or off (in Standby), provided that the **Main Power** switch **1** is on.

Note: The total power consumption of all devices connected to the accessory outlets should not exceed 100 watts from the **Unswitched Outlet 17** and 50 W from the **Switched Outlet 16**.

18 AC Power Cord: Connect the AC plug to an unswitched AC wall outlet.

19 Remote IR Output: This connection permits the IR sensor in the receiver to serve other remote controlled devices. Connect this jack to the "IR IN" jack on Harman Kardon or other compatible equipment.

20 Remote IR Input: If the AVR5000's front-panel IR sensor is blocked due to cabinet doors or other obstructions, an external IR sensor may be used. Connect the output of the sensor to this jack.

21 Multiroom IR Input: Connect the output of an IR sensor in a remote room to this jack to operate the AVR5000's multiroom control system.

22 DVD Video Inputs: Connect these jacks to the composite or S-Video output jacks on a DVD player or other video source.

23 Video 1 Video Outputs: Connect these jacks to the **RECORD/INPUT** composite or S-Video jack on a VCR.

24 Video 3 Video Inputs: Connect these jacks to the **PLAY/OUT** composite or S-Video jacks on any video source.

25 Video 2 Video Inputs: Connect these jacks to the **PLAY/OUT** composite or S-Video jacks on a second VCR or other video source.

26 Video 2 Video Outputs: Connect these jacks to the **RECORD/INPUT** composite or S-Video jacks on a second VCR.

27 Video 1 Video Inputs: Connect these jacks to the **PLAY/OUT** composite or S-Video jacks on a VCR or other video source.

28 Optical Digital Inputs: Connect the optical digital output from a DVD player, HDTV receiver, LD player, MD player or CD player to these jacks. The signal may be either a Dolby Digital signal, a DTS signal or a standard PCM digital source.

29 Coaxial Digital Inputs: Connect the coax digital output from a DVD player, HDTV receiver, LD player, MD player or CD player to these jacks. The signal may be either a Dolby Digital signal, DTS signal or a standard PCM digital source. Do not connect the RF digital output of an LD player to these jacks.

30 Digital Audio Outputs: Connect these jacks to the matching digital input connector on a digital recorder such as a CD-R or MiniDisc recorder.

31 Video 3 Audio Inputs: Connect these jacks to the **PLAY/OUT** audio jacks on any audio or video source.

32 Video 2 Audio Inputs: Connect these jacks to the **PLAY/OUT** audio jacks on a VCR or other video source.

33 Video 2 Audio Outputs: Connect these jacks to the **RECORD/INPUT** audio jacks on a VCR or any Audio recorder.

Note: Either the Video or S-Video output of any S-Video source must be connected to the AVR5000, not both in parallel, otherwise the video may be disturbed or its performance be adversely effected.

34 Component Monitor Outputs: Connect these outputs to the component video inputs of a video projector or monitor. When a source connected to one of the two **Component Video Inputs 35/36** is selected the signal will be sent to these jacks.

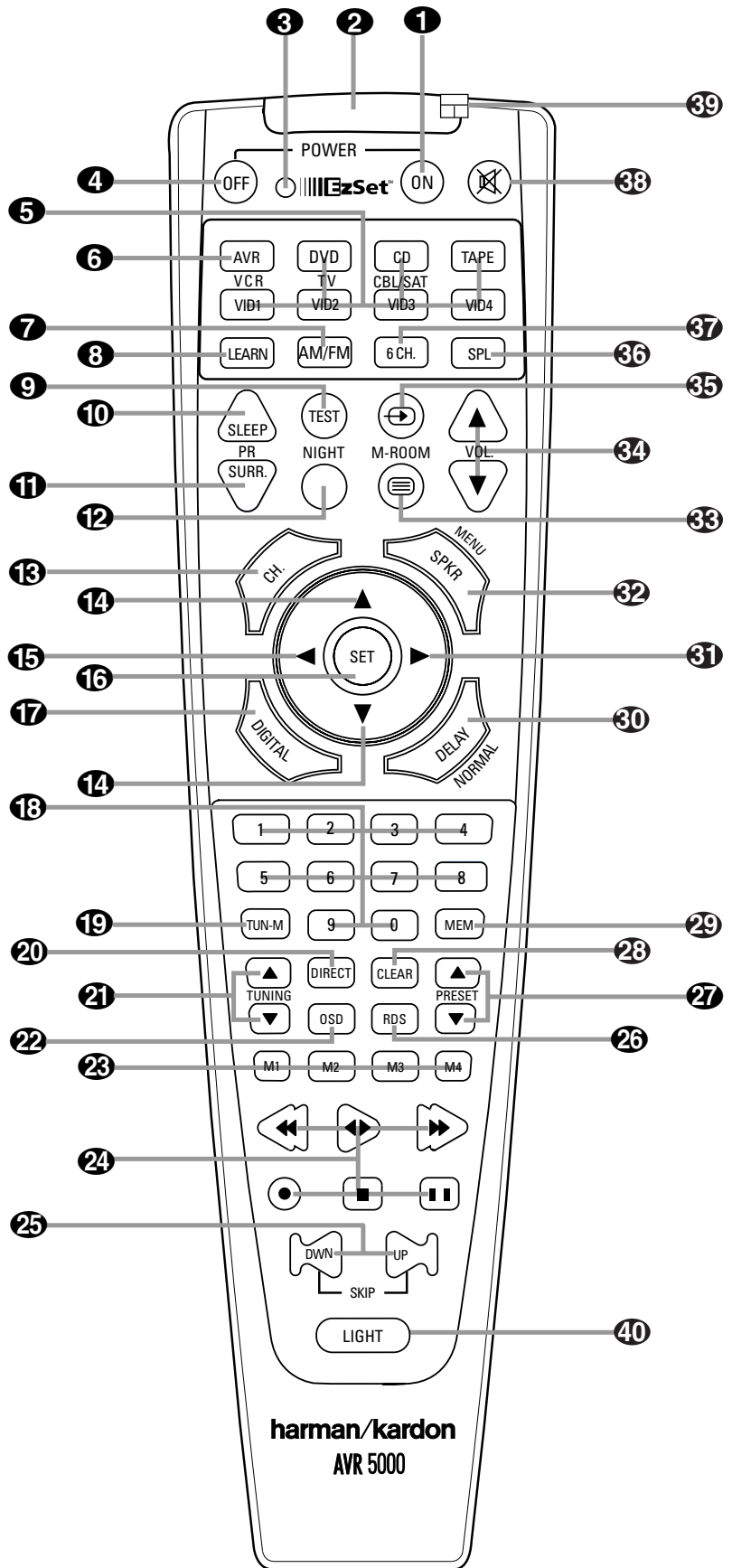
35 Video 2 Component Video Inputs: Connect the Y/Pr/Pb component video outputs of a set top converter box or other video source to these jacks.

36 DVD Component Video Inputs: Connect the Y/Pr/Pb component video outputs of a DVD player to these jacks.

Note: All component inputs/outputs can be used for RGB signals too, in the same way as described for the Y/Pr/Pb signals, then connected to the jacks with the corresponding color. RGB connection is not possible if the source outputs a separate sync signal.

Main Remote Control Functions

- 1 Power On Button
- 2 IR Transmitter Window
- 3 Program/SPL Indicator
- 4 Power Off Button
- 5 Input Selectors
- 6 AVR Selector
- 7 AM/FM Tuner Select
- 8 Learn Button
- 9 Test Button
- 10 Sleep Button
- 11 Surround Mode Selector
- 12 Night Mode
- 13 Channel Select Button
- 14 ▲/▼ Buttons
- 15 ◀ Button
- 16 Set Button
- 17 Digital Select
- 18 Numeric Keys
- 19 Tuner Mode
- 20 Direct Button
- 21 Tuning Up/Down
- 22 OSD Button
- 23 Macro Buttons
- 24 Transport Controls
- 25 Skip Up/Down Buttons
- 26 RDS Select Button
- 27 Preset Up/Down
- 28 Clear Button
- 29 Memory Button
- 30 Delay/Prev. Ch.
- 31 ▶ Button
- 32 Speaker Select
- 33 Multiroom
- 34 Volume Up/Down
- 35 TV/Video Selector
- 36 SPL Indicator Select
- 37 6-Channel Direct Input
- 38 Mute
- 39 EzSet Sensor Microphone
- 40 Light Button



NOTE: The function names shown here are each button's feature when used with the AVR. Most buttons have additional functions when used with other devices. See page 44-45 for a list of these functions.

Main Remote Control Functions

IMPORTANT NOTE: The AVR5000's remote may be programmed to control up to seven devices, including the AVR5000. Before using the remote, it is important to remember to press the **Input Selector** button **5** that corresponds to the unit you wish to operate. In addition, the AVR5000's remote is shipped from the factory to operate the AVR5000 and most Harman Kardon CD or DVD players and cassette decks. The remote is also capable of operating a wide variety of other products using the control codes that are part of the remote or by learning commands from other remotes. Before using the remote with other products, follow the instructions on pages 39 to program the proper codes for the products in your system.

It is also important to remember that many of the buttons on the remote take on different functions, depending on the product selected using the Input Selectors. The descriptions shown here primarily detail the functions of the remote when it is used to operate the AVR5000. (See page 44 for information about alternate functions for the remote's buttons.)

1 Power On Button: Press this button to turn on the power to a device selected by pressing one of the **Input Selectors 5** (except Tape).

2 IR Transmitter Window: Point this window towards the AVR5000 when pressing buttons on the remote to make certain that infrared commands are properly received.

3 Program/SPL Indicator: This three-color indicator is used to guide you through the process of programming the remote or learning commands from a remote into the AVR 5000's remote code memory and it is also used as a level indicator when using the remote's EzSet capabilities. (See page 24 for more information on setting output levels, and see page 39 for information on programming the remote.)

4 Power Off Button: Press this button to place the AVR5000 or a selected device unit in the Standby mode. Note that when the AVR5000 is switched off this will turn off the main room functions, but if the Multiroom system is activated, it will continue to function.

5 Input Selectors: Pressing one of these buttons will perform three actions at the same time. First, if the AVR is not turned on, this will power up the unit. Next, it will select the source shown on the button as the input to the AVR. Finally, it will change the remote control so that it controls the device selected. After pressing one of these buttons you must press the **AVR Selector** button **6** again to operate the AVR's functions with the remote.

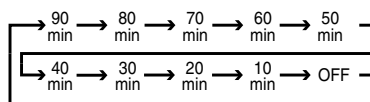
6 AVR Selector: Pressing this button will switch the remote so that it will operate the AVR's functions. If the AVR is in the Standby mode, it will also turn the AVR on.

7 AM/FM Tuner Select: Press this button to select the AVR's tuner as the listening choice. Pressing this button when the tuner is in use will select between the AM and FM bands.

8 Learn Button: Press this button to begin the process of "learning" the codes from another product's remote into the AVR5000's remote. (See page 40 for more information on using the remote's learning function.)

9 Test Tone: Press this button to begin the sequence used to calibrate the AVR5000's output levels. (See page 24 for more information on calibrating the AVR5000.)

10 Sleep Button: Press this button to place the unit in the Sleep mode. After the time shown in the display, the AVR5000 will automatically go into the Standby mode. Each press of the button changes the time until turn-off in the following order:



Hold the button pressed for two seconds to turn off the Sleep mode setting.

Note that this button is also used to change channels on your TV, VCR and SAT receiver when selected.

11 Surround Mode Selector: Press this button to begin the process of changing the surround mode. After the button has been pressed, use the **▲/▼** buttons **14** to select the desired surround mode (See page 29 for more information). Note that this button is also used to tune channels when the TV, VCR and SAT receiver is selected using the **Input Selector 5**.

12 Night Mode: Press this button to activate the Night mode. This mode is available only with Dolby Digital encoded digital sources, and it preserves dialog (center channel) intelligibility at low volume levels (See page 31 for more information).

13 Channel Select Button: This button is used to start the process of setting the AVR5000's output levels with an external source. Once this button is pressed, use the **▲/▼** buttons **14** to select the channel being adjusted, then press the **Set** button **16**, followed by the **▲/▼** buttons again, to change the level setting. (See page 32 for more information.)

14 ▲/▼ Buttons: These are multi-purpose buttons. They will be used most frequently to select a surround mode. To change the surround mode, first press the **SURR/CH ▼** button **11**. Next press these buttons to scroll up or down through the list of surround modes that appear in the **Main Information Display 25**. These buttons are also used to increase or decrease output levels when configuring the unit with either the internal test tone or an external source. They are also used to enter delay time settings after the **Delay** button **30** has been pressed.

When the AVR5000 remote is being programmed for the codes of another device, these buttons are also used in the "Auto Search" process (See page 39 for more information on programming the remote.)

15 ◀ Button: This button is used to change the menu selection or setting during some of the setup procedures for the AVR.

16 Set Button: This button is used to enter settings into the AVR5000's memory. It is also used in the setup procedures for delay time, speaker configuration and channel output level adjustment.

17 Digital Select: Press this button to assign one of the digital inputs **28 29 13 15** to a source. (See page 30 for more information on using digital inputs.)

18 Numeric Keys: These buttons serve as a ten-button numeric keypad to enter tuner preset positions. They are also used to select channel numbers when **TV**, **VCR** or **Sat** receiver has been selected on the remote, or to select track numbers on a CD, DVD or LD player, depending on how the remote has been programmed.

19 Tuner Mode: Press this button when the tuner is in use to select between automatic tuning and manual tuning. When the button is pressed so that the **AUTO** indicator **X** goes out, pressing the **Tuning** buttons **21 8 E** will move the frequency up or down in single-step increments. When the FM band is in use and the **AUTO** indicator **X** is on, pressing this button will change to monaural reception making even weak stations audible. (See page 33 for more information.)

Main Remote Control Functions

20 Direct Button: Press this button when the tuner is in use to start the sequence for direct entry of a station's frequency. After pressing the button simply press the proper **Numeric Keys 18** to select a station (See page 33 for more information on the tuner).

21 Tuning Up/Down: When the tuner is in use, these buttons will tune up or down through the selected frequency band. If the **Tuner Mode** button **19** has been pressed or the **Band** button **12** on the front panel was held pressed so that the **AUTO** indicator **X** is illuminated, pressing either of the buttons will cause the tuner to seek the next station with acceptable signal strength for quality reception. When the **AUTO** indicator **X** is NOT illuminated, pressing these buttons will tune stations in single-step increments. (See page 33 for more information.)

22 OSD Button: Press this button to activate the On Screen Display (OSD) system used to set up or adjust the AVR5000's parameters.

23 Macro Buttons: Press these buttons to store or recall a "Macro", which is a pre-programmed sequence of commands stored in the remote. (See page 41 for more information on storing and recalling macros.)

24 Transport Buttons: These buttons do not have any functions for the AVR, but they may be programmed for the forward/reverse play operation of a wide variety of CD or DVD players, and audio or video- cassette recorders. (See page 39 for more information on programming the remote.)

25 Skip Up/Down Buttons: These buttons do not have a direct function with the AVR5000, but when used with a compatibly programmed CD or DVD player/changer they will change the tracks on the disc currently being played.

26 RDS Select Button: Press this button to display the various messages that are part of the RDS data system of the AVR5000's tuner. (See page 34 for more information on RDS).

27 Preset Up/Down: When the tuner is in use, press these buttons to scroll through the stations programmed into the AVR5000's memory. When CD or DVD is selected using the **Input Selector** button **5**, these buttons may function as Slow Fwd/Rev (DVD) or "+10" (CD).

28 Clear Button: Press this button to clear incorrect entries when using the remote to directly enter a radio station's frequency.

29 Memory Button: Press this button to enter a radio station into the AVR5000's preset memory. After pressing the button the **MEMORY** indicator **U** will flash; you then have five seconds to enter a preset memory location using the **Numeric Keys 18**. (See page 33 for more information.)

30 Delay/Prev Ch.: Press this button to begin the process for setting the delay times used by the AVR5000 when processing surround sound. After pressing this button, the delay times are entered by pressing the **Set** button **16** and then using the **▲/▼** buttons **14** to change the setting. Press the Set button again to complete the process. (See page 23 for more information.)

31 ► Button: Press this button to change a setting or selection when configuring many of the AVR's settings.

32 Speaker Select: Press this button to begin the process of configuring the AVR5000's Bass Management System for use with the type of speakers used in your system. Once the button has been pressed, use the **▲/▼** buttons **14** to select the channel you wish to set up. Press the **Set** button **16** and then select the speaker type (see page 22 for more information.)

33 Multi-Room: Press this button to activate the Multiroom system or to begin the process of changing the input or volume level for the second zone. (See page 38 for more information on the Multiroom system.)

34 Volume Up/Down: Press these buttons to raise or lower the system volume.

35 TV/Video Button: This button does not have a direct function on the AVR 5000, but when used with a compatibly programmed VCR, DVD or satellite receiver that has a "TV/Video" function, pressing this button will switch between the output of the player or receiver and the external video input to that player. Consult the Owner's Manual for your specific player or receiver for the details of how it implements this function.

36 SPL Indicator Select: This button activates the AVR5000's EzSet function to quickly and accurately calibrate the AVR 5000's output levels. Press and hold the button for three seconds and then release it. Note that the Test Tone will begin circulating, and the **Program Indicator 3** will change colors. During this sequence, EzSet will automatically adjust the output levels for all channels until they are equal, as shown by the **Program Indicator** lighting green for each channel. (See page 25 for more information on EzSet.)

37 6-Ch. Direct Input: Press this button to select the component connected to the **6-Ch. Direct Input 9** as the source

38 Mute: Press this button to momentarily silence the AVR5000 or TV set being controlled, depending on which device has been selected.

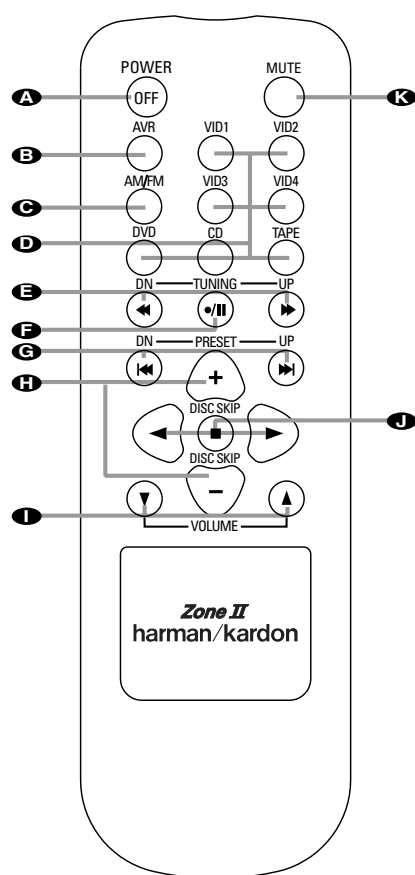
When the AVR5000 remote is being programmed to operate another device, this button is pressed with the **Input Selector** button **5** to begin the programming process. (See page 39 for more information on programming the remote.)

39 EzSet Sensor Microphone: The sensor microphone for the EzSet microphone is behind these slots. When using the remote to calibrate speaker output levels using EzSet, be sure that you do not hold the remote in a way that covers these slots. (See page 25 for more information on using EzSet).

40 Light Button: Press this button to activate the remote's built-in backlight for better legibility of the buttons in a darkened room.

NOTE: As any of the remote buttons pressed is active with the device selected, the corresponding **Selector** button **5 6** will briefly flash red to confirm your selection.

Zone II Remote Control Functions



The Zone II remote may be used in either the same room where the AVR5000 is located, or it may be used in a separate room with an optional infrared sensor that is connected to the AVR5000's **Multi IR** input jack ②.

A Power Off: When used in the room where the AVR5000 is located, press this button to place the unit in Standby. When it is used in a remote room with a sensor that is connected to the **Multi IR** jack ②, this button turns the Multi-Room system off.

B AVR Selector: Press this button to turn on the AVR. The input in use when the unit was last on will be selected.

C AM/FM Tuner Select: Press this button to select the Tuner as the input to the Multiroom system. Press it again to change between the AM and FM bands.

D Input Selectors: When the AVR is off, press one of these buttons to turn the unit on and to select a specific input. When the unit is already in use, pressing one of these buttons will change the input.

E Tuning Up/Down – Fast Play: These buttons may be used to change the frequency of the tuner. These buttons may also control the Fast Play or Fast Reverse functions of compatible Harman Kardon CD, DVD or cassette decks in the same room, or from a remote room when an IR link is connected to the AVR 5000.

F Record/Pause: Press this button to activate the Record or Pause function on compatible Harman Kardon CD, DVD or Cassette Deck products.

G Preset Up/Down – Track Skip: When the AVR's tuner is selected as the input source, these buttons will move up or down through the list of stations that have been stored in the preset memory. When a CD or DVD player is selected, these buttons activate the forward or reverse track or chapter skip functions.

H Disc Skip: Press this button to change discs on compatible Harman Kardon CD or DVD changers.

I Volume Up/Down: When used in the room where the AVR5000 is located, press this button to raise or lower the volume in that room. When it is used in a remote room with a sensor that is connected to the **Multi IR** Jack ②, this button will raise or lower the volume in the remote room.

J Play Forward/Reverse/Stop: Press these buttons to control compatible Harman Kardon CD, DVD or cassette players.

Mute: When used in the room where the AVR5000 is located, press this button to temporarily silence the unit. When it is used in a remote room with a sensor that is connected to the **Multi IR** Jack ②, this button will temporarily silence the feed to the remote room only. Press the button again to return to the previous volume level.

Important Note: No matter in which room the Zone II remote is used, as with the main remote it is important to remember to press the **Input Selector** button **D** that corresponds to the unit you wish to operate.

- A** Power Off
- B** AVR Selector
- C** AM/FM Tuner Select
- D** Input Selectors
- E** Tuning Up/Down – Fast Play
- F** Record/Pause
- G** Preset/Track Skip
- H** Disc Skip
- I** Volume Up/Down
- J** Play Forward/Reverse/Stop
- M** Mute

NOTE: The Zone II remote may be used in either the same room where the AVR5000 is located, or it may be used in a separate room with an optional infrared sensor that is connected to the AVR5000's **Multi IR** input jack ②. When it is used in the same room as the AVR5000, it will control the functions of the AVR5000 or any compatible Harman Kardon products in that room. When it is used in a separate room via a sensor connected to the **Multi IR** Jack ②, the buttons for power, input source, volume and

mute will control the source and volume for the second zone, as connected to the Multi Out Jacks ⑩. (See page 38 for complete information on using the Multiroom system.)

Installation and Connections

After unpacking the unit, and placing it on a solid surface capable of supporting its weight, you will need to make the connections to your audio and video equipment.

Audio Equipment Connections

We recommend that you use high-quality interconnect cables when making connections to source equipment and recorders to preserve the integrity of the signals.

When making connections to audio source equipment or speakers it is always a good practice to unplug the unit from the AC wall outlet. This prevents any possibility of accidentally sending audio or transient signals to the speakers that may damage them.

1. Connect the analog output of a CD player to the **CD inputs** **8**.

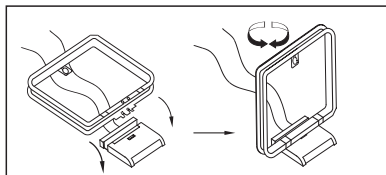
NOTE: When the CD player has both fixed and variable audio outputs it is best to use the fixed output unless you find that the input to the receiver is so low that the sound is noisy, or so high that the signal is distorted.

2. Connect the analog Play/Out jacks of a cassette deck, MD, CD-R or other audio recorder to the **Tape Input** jacks **1**. Connect the analog Record/In jacks on the recorder to the **Tape Output** jacks **2** on the AVR5000.

3. Connect the output of any digital sources to the appropriate input connections on the AVR5000 front or rear panel. Note that the **Optical** and **Coaxial** digital inputs **28 29 13 15** may be used with a Dolby Digital or DTS source or the output of a conventional CD, MD or LD player's PCM (S/P-DIF) output.

4. Connect the **Coaxial or Optical Digital Outputs** **30** on the rear panel of the AVR to the matching digital input connections on a CD-R or MiniDisc recorder.

5. Assemble the AM Loop Antenna supplied with the unit as shown below. Connect it to the **AM** and **GND** screw terminals **4**.



6. Connect the supplied FM antenna to the **FM (75 ohm)** connection **7**. The FM antenna may be an external roof antenna, an inside powered or wire lead antenna or a connection from a cable system. Note that if the antenna or connection uses 300-ohm twin-lead cable, you must use a 300-ohm-to-75-ohm adapter to make the connection.

7. Connect the front, center and surround speaker outputs **15** to the respective speakers.

To assure that all the audio signals are carried to your speakers without loss of clarity or resolution, we suggest that you use high-quality speaker cable. Many brands of cable are available and the choice of cable may be influenced by the distance between your speakers and the receiver, the type of speakers you use, personal preferences and other factors. Your dealer or installer is a valuable resource to consult in selecting the proper cable.

Regardless of the brand of cable selected, we recommend that you use a cable constructed of fine, multistrand copper with an area greater than 2 mm².

Cable with an area of 1.5 mm² may be used for short runs of less than 4 m. We do not recommend that you use cables with an area less than 1mm² due to the power loss and degradation in performance that will occur.

Cables that are run inside walls should have the appropriate markings to indicate listing with UL, CSA or other appropriate testing agency standards. Questions about running cables inside walls should be referred to your installer or a licensed electrical contractor who is familiar with the applicable local building codes in your area.

When connecting wires to the speakers, be certain to observe proper polarity. Remember to connect the "negative" or "black" wire to the same terminal on both the receiver and the speaker. Similarly, the "positive" or "red" wire should be connected to like terminals on the AVR5000 and speaker.

NOTE: While most speaker manufacturers adhere to an industry convention of using black terminals for negative and red ones for positive, some manufacturers may vary from this configuration. To assure proper phase and optimal performance, consult the identification plate on your speaker or the speaker's manual to verify polarity. If you do not know the polarity of your speaker, ask your dealer for advice before proceeding, or consult the speaker's manufacturer.

We also recommend that the length of cable used to connect speaker pairs be identical. For example, use the same length piece of cable to connect the front-left and front-right or surround-left and surround-right speakers, even if the speakers are a different distance from the AVR5000.

8. Connections to a subwoofer are normally made via a line level audio connection from the **Subwoofer Output** **12** to the line-level input of a subwoofer with a built-in amplifier. When a passive subwoofer is used, the connection first goes to a power amplifier, which will be con-

nected to one or more subwoofer speakers. If you are using a powered subwoofer that does not have line-level input connections, follow the instructions furnished with the speaker for connection information.

Note: Speaker sets with two front satellites and a passive subwoofer must be connected to the front speaker outputs **14** only rather than to the **Subwoofer Output** **12**.

Video Equipment Connections

Video equipment is connected in the same manner as audio components. Again, the use of high-quality interconnect cables is recommended to preserve signal quality. To ensure best video performance S-Video sources should be connected to the AVR5000 only with their S-Video In/Outputs, not with their composite video connectors too.

1. Connect a VCR's audio and video Play/Out jacks to the **Video 1** or **Video 2 In** jacks **3 25 27 32** on the rear panel. The Audio and Video Record/In jacks on the VCR should be connected to the **Video 1** or **Video 2 Out** jacks **5 23 25 33** on the AVR5000.

2. Connect the analog audio and video outputs of a satellite receiver, cable TV converter or television set or any other video source to the **Video 2** **25 32** (if not in use) or **Video 3** **24 31** jacks.

3. Connect the analog audio and video outputs of a DVD or laser disc player to the **DVD** jacks **6 22**.

4. Connect the digital audio outputs of a CD, MD or DVD player, satellite receiver, cable box or HDTV converter to the appropriate **Optical** or **Coaxial Digital Inputs** **28 29 13 15**.

5. Connect the **Video Monitor Out** **13** jacks on the receiver to the composite and S-Video input of your television monitor or video projector.

6. If your DVD player and monitor both have component video connections, connect the component outputs of the DVD player to the **DVD Component Video Inputs** **36**. Note that even when component video connections are used the audio connections must still be made to either the analog **DVD Audio Inputs** **6** or any of the **Coaxial** or **Optical Digital Input** jacks **28 29**.

7. If another component video device is available, connect it to the **Video 2 Component Video Input** jacks **35**. The audio connections for this device should be made to either the **Video 2 Input** jacks **32** or any of the **Coaxial** or **Optical Digital Input** jacks **28 29**.

Installation and Connections

8. If the component video inputs are used, connect the **Component Video Output 34** to the component video inputs of your TV, projector or display device.

Video Connection Notes:

- Y/Pr/Pb Component, S-Video or Composite video signals may only be viewed in their native formats and will not be converted to the other formats. But the OSD can be viewed on the TV screen in any case, with Video or S-Video input selected on the TV.
- When the component video jacks are used, the on-screen menus will not be visible. You must switch to the standard composite or S-Video input on your TV to view those menus.
- The AVR 5000's component video system is designed for standard video rate video from DVD players and similar devices. While it may operate with high definition signals, the video quality may be slightly less than with a direct connection between the DVD and your TV.
- All component inputs/outputs can be used for RGB signals too, in the same way as described for the Y/Pr/Pb signals, then connected to the jacks with the corresponding color. But this is only true as long as only the three RGB lines are used and not any sync signal is output separately from the source.

SCART A/V Connections

For the connections described above your video device needs RCA (cinch) connectors or/and S-Video connectors for all Audio and Video signals: Any normal video device (Not SVHS or High 8) for only playback needs 3 RCA jacks, VCRs for record and playback even 6 RCA jacks. Any S-Video device (SVHS, High 8) needs 2 RCA (Audio) and 1 S-Video jack (Video), if it's a playback unit, or 4 RCA (Audio In/Out) and 2 S-Video (Video In/Out) jacks, if it's a recording VCR.

Many european video devices are equipped with RCA (Cinch) or S-Video jacks only partially, not for all audio and video in/outputs needed as described above, but with a so called Scart or Euro-AV connector (almost rectangular jack with 21 pins, see drawings on next page).

In that case the following Scart to Cinch adapters or cables are needed:

- Units for playback, such as satellite receivers, camcorders, DVD or LD players, need an adapter from Scart to 3 RCA plugs, see fig. 1 (normal video devices) or from Scart to 2 RCA+1 S-Video plugs, see fig. 4 (S-Video devices).
- HiFi VCRs need an adapter from Scart to 6 RCA plugs, see fig. 2 (normal video), or from Scart to 4 Audio+2S-Video jacks, see fig. 5 (S-Video VCR). Read carefully the instruction attached to the adapter to find which of the six plugs is used for the record signal to the VCR (connect with the AVR's Out jacks) and for the playback signal from the VCR (connect with the AVR's In jacks). Do not misconnect Audio and Video signals. Don't hesitate to consult your dealer, if you are uncertain.
- If you use only normal video devices the TV monitor needs an adapter from 3 RCA plugs to Scart (fig. 3) only. If also S-Video devices are used an adapter from 2 RCA+1S-Video plugs to Scart is needed additionally (fig. 6), connected to the SCART input on your TV that is provided for S-Video.

Note that only the video plugs (the "yellow" cinch plug in fig. 3 and the S-Video plug in fig. 6) must be connected to the **TV Monitor Output 13**, and the volume on the TV must be reduced to minimum.

Important Note for Adapter Cables:

If the cinch connectors of the adapter you'll use are labeled, connect the Audio and Video "In" plugs with the corresponding Audio and Video "In" jacks on the AVR5000 (and with a VCR connect the "Out" plugs to the "Out" jacks on the AVR). Note that with some adapter types it may be just turned around: If no signal is audible/ visible when the VCR is playing connect the "Out" plugs to the "In" jacks on the AVR and turned around. If the adapter plugs are not labeled in that way, pay attention to the signal flow directions as shown in the diagrams above and in the instruction attached to the adapter. If uncertain, don't hesitate to consult your dealer.

Important Notes for S-Video connections:

1. Only the S-Video In/Out of S-Video devices must be connected to the AVR, NOT both, normal video and S-Video In/Outputs (except the TV, see item below).
2. Like most common AV units the AVR5000 does not convert the Video signal to S-Video or vice versa. Thus both connections must be made from the AVR5000 to the TV if both, Video and S-Video sources, are used, and the appropriate input on the TV must be selected.

Installation and Connections

Figure 1:
SCART/Cinch-Adapter for
playback;
signal flow:
SCART → Cinch

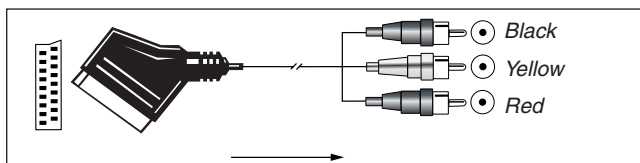


Figure 2:
SCART/Cinch-Adapter for
record and playback;
signal flow:
SCART ↔ Cinch

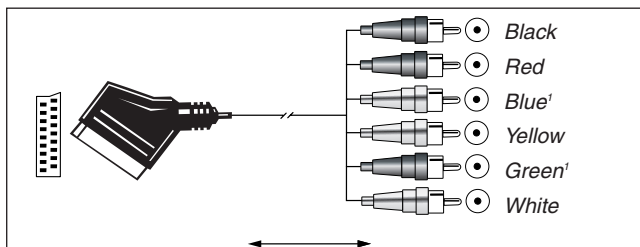


Figure 3:
Cinch/SCART-Adapter for
playback;
signal flow:
Cinch → SCART

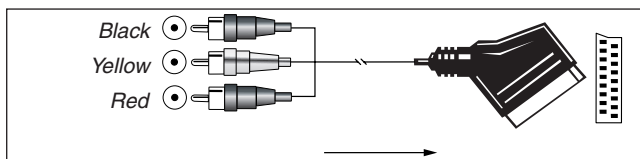


Figure 4:
SCART/S-Video Adapter
for playback;
signal flow:
SCART → Cinch

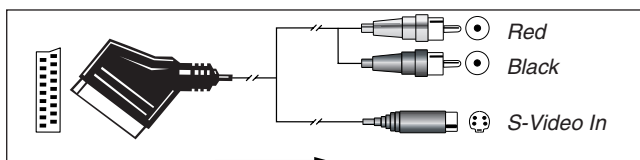


Figure 5:
SCART/S-Video Adapter
for record and playback;
signal flow:
SCART ↔ Cinch

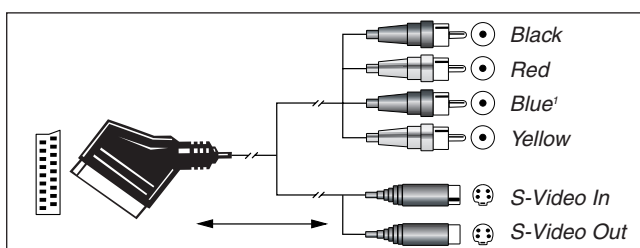
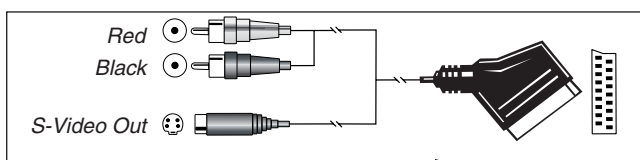


Figure 6:
SCART/S-Video Adapter
for playback;
signal flow:
Cinch → SCART



¹ Also other colours possible, e.g. brown and grey.

Important Note for the Use of SCART-Cinch Adapters:

When video sources are connected to the TV directly with a SCART cable, specific control signals apart from Audio/Video signals will be fed to the TV. These specific signals are: With all video sources, the signal for automatic input selection that switches the TV automatically to the appropriate input as soon as the video source is started. And with DVD players, the signals automatically turning the TV to 16:9 format (with switchable 4:3 TVs) and turning the RGB video decoder of the TV on or off, depending on the DVD player's setting. With any adapter cable, these control signals will be lost and the appropriate setting of the TV must be made manually.

Note for RGB signal with SCART:

If you use a unit providing RGB signals on a SCART output (as e.g. most DVD players do) and you want to use that RGB signal, this SCART output must be connected directly to your TV. Although the AVR 5000 RDS can switch three-way video signals (like component signals Y/Pb/Pr), most TVs need separate sync signals for RGB (also with SCART) that cannot be switched and provided by the AVR 5000. RGB signals can be pathed through the AVR5000 only when no separate sync signal is needed (see 4th "Video Connection Note" on page 16).

Installation and Connections

System and Power Connections

The AVR5000 is designed for flexible use with multiroom systems, external control components and power amplifiers.

Main Room Remote Control Extension

If the receiver is placed behind a solid or smoked glass cabinet door, the obstruction may prevent the remote sensor from receiving commands. In this event, the remote sensor of any Harman Kardon or other compatible device, not covered by the door, or an optional remote sensor may be used. Connect the **Remote IR Output** of that device or the output of the remote sensor to the **Remote IR Input** jack ⑳.

If other components are also prevented from receiving remote commands, only one sensor is needed. Simply use this unit's sensor or a remote eye by running a connection from the **Remote IR Output** jack ⑲ to the **Remote IR Input** jack on Harman Kardon or other compatible equipment.

NOTE: All remotely controlled components must be linked together in a daisy chain. Connect the **IR OUT** jack of one unit to the **IR IN** of the next to establish this chain.

Multiroom IR Link

The key to remote room operation is to link the remote room to the AVR5000's location with wire for an infrared receiver and speakers or an amplifier. The remote room IR receiver (this can be an optional IR receiver or any other remotable Harman Kardon device in the remote room with IR sensor integrated) should be connected to the AVR5000 via standard coaxial cable. Connect the **Remote IR Output** of the device or of the optional sensor with the **Multiroom IR Input** jack ㉑ on the AVR5000's rear panel.

If other Harman Kardon compatible source equipment is part of the main room installation, the **Remote IR Output** jack ⑲ on the rear panel should be connected to the IR IN jack on that source device. This will enable the remote room location to control source equipment functions.

Multiroom Audio Connections

Depending on the distance from the AVR5000 to the remote room, two options (A and B) are available for audio connection:

Option 1: Use high-quality, shielded stereo audio interconnect cable with phono plugs on both ends from the AVR5000's location to the remote room. At the remote room, connect the interconnect cable to a stereo power amplifier. The amplifier will be connected to the room's speakers. No volume control is required, as the AVR5000 and the remote IR link will provide that function. At the AVR5000, plug the audio interconnect cables into the **Multi-Room Output** jacks ㉒ on the AVR5000's rear panel.

Option 2: Place the amplifier that will provide power to the remote location speakers in the same room as the AVR5000, and connect the **Multiroom Output** jacks ㉒ on the rear panel of the AVR to the audio input of the remote room amplifier. Use the appropriate speaker wire to connect the optional power amplifier to the remote speakers. High-quality wire of at least 2.5 mm² is recommended for long multiroom connections.

IMPORTANT NOTE: Any cables run inside walls should carry any certification that is required by the local building and electrical codes. To avoid interference, audio and speaker cables should not be parallel to, or run in the same conduits or path with, AC cables. If you have any questions about multiroom wiring, consult your dealer, custom installer or low-voltage electrical contractor.

External Audio Power Amplifier Connections

If desired, the AVR 5000 may be connected to optional, external audio power amplifiers or used with equalizers or speaker systems that require connection between the preamp and amplifier sections of a receiver.

To make these connections, remove the jumpers that connect the **Preamp Out** jacks ㉓ and **Amplifier In** jacks ㉔ for the channels to be used with external devices. Store the jumpers in a safe place so that the AVR may be used in its normal mode at a future date, if desired.

When an external amplifier is used, connect the **Preamp Out** jacks ㉓ to the inputs on the amplifier. When an equalizer or speaker processor is used, connect the **Preamp Out** jacks ㉓ to the inputs of the processor, and connect the outputs of the processor back to the **Amplifier In** jacks ㉔ on the AVR. Note that when external amplifiers or devices are used, volume is still controlled by the AVR, although additional volume controls on the external device may affect volume and output levels from the AVR.

External Audio Decoder Connection

To provide for ultimate flexibility, the AVR5000 may be used in conjunction with optional, external decoders for digital audio systems other than the AVR5000's own built-in Dolby Digital and DTS decoding system or with DVD players having those decoders integrated. If an external decoder is used, connect the output jacks of the decoder to the **6-Channel Direct** inputs ㉕, making sure to match channels.

These jacks may also be used for connections to devices such as DVD players or High Definition Television (HDTV) sets or decoders that feature built-in digital surround decoders. Although the digital decoding system in the AVR5000 will typically provide audio performance that is superior to other decoders, you may use these jacks to provide an additional 6-channel input for connection to a DVD player or HDTV set with a built-in decoder and discrete 6-channel analog outputs.

AC Power Connections

This unit is equipped with two accessory AC outlets. They may be used to power accessory devices, but they should not be used with high-current draw equipment such as power amplifiers. The total power draw to the **Unswitched** Outlet ㉖ must not exceed 100 watts, that to the **Switched** Outlet ㉗ 50 watts.

The **Switched** ㉗ outlet will receive power only when the unit is on completely. This is recommended for devices that have no power switch or a mechanical power switch that may be left in the "ON" position.

NOTE: Many audio and video products go into a Standby mode when they are used with switched outlets, and cannot be fully turned on using the outlet alone without a remote control command.

The **Unswitched** ㉖ outlet will receive power as long as the unit is plugged into a powered AC outlet and the **Main Power Switch** ㉘ is on.

Finally, when all connections are complete, plug the power cord into a nonswitched 220-240-volt AC wall outlet. You're almost ready to enjoy the AVR5000!

System Configuration

When all audio, video and system connections have been made, there are a few configuration adjustments that must be made. A few minutes spent to correctly configure and calibrate the unit will greatly add to your listening experience.

Speaker Selection

No matter which type or brand of speakers is used, the same model or brand of speaker should be used for the front-left, center and front-right speakers. This creates a seamless front soundstage and eliminates the possibility of distracting sonic disturbances that occur when a sound moves across mismatched front-channel speakers.

Speaker Placement

The placement of speakers in a multichannel home-theater system can have a noticeable impact on the quality of sound reproduced.

Depending on the type of center-channel speaker in use and your viewing device, place the center speaker either directly above or below your TV, or in the center behind a perforated front-projection screen.

Once the center-channel speaker is installed, position the left-front and right-front speakers so that they are as far away from one another as the center-channel speaker is from the preferred listening position. Ideally, the front-channel speakers should be placed so that their tweeters are no more than 60cm above or below the tweeter in the center-channel speaker.

They should also be at least 0.5 meter from your TV set unless the speakers are magnetically shielded to avoid colourings on the TV screen. Note that most speakers are not shielded, even with complete surround sets only the Center speaker may be.

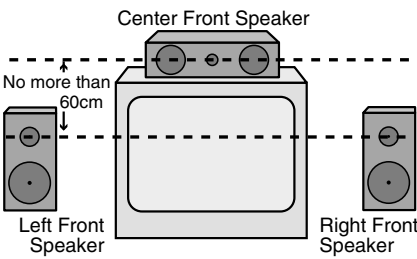
Depending on the specifics of your room acoustics and the type of speakers in use, you may find that imaging is improved by moving the front-left and front-right speakers slightly forward of the center-channel speaker. If possible, adjust all front loudspeakers so that they are aimed at ear height when you are seated in the listening position.

Using these guidelines, you'll find that it takes some experimentation to find the correct location for the front speakers in your particular installation. Don't be afraid to move things around until the system sounds correct. Optimize your speakers so that audio transitions across the front of the room sound smooth.

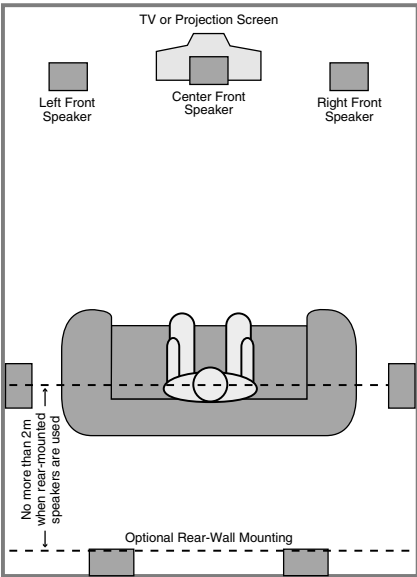
Surround speakers should be placed on the side walls of the room, at or slightly behind the listening position. The center of the speaker should face you.

If side-wall mounting is not practical, the speakers may be placed on a rear wall, behind the listening position. The speakers should be no more than two meters behind the rear of the seating area.

Subwoofers produce largely nondirectional sound, so they may be placed almost anywhere in a room. Actual placement should be based on room size and shape and the type of subwoofer used. One method of finding the optimal location for a subwoofer is to begin by placing it in the front of the room, about 15cm from a wall, or near the front corner of the room. Another method is to temporarily place the subwoofer in the spot where you will normally sit, and then walk around the room until you find a spot where the subwoofer sounds best. Place the subwoofer in that spot. You should also follow the instructions of the subwoofer's manufacturer, or you may wish to experiment with the best location for a subwoofer in your listening room.



A) Front Channel Speaker Installation with Direct-View TV Sets or Rear-Screen Projectors



B) The distance between the left and right speakers should be equal to the distance from the seating position to the viewing screen. You may also experiment with placing the left and right speakers slightly forward of the center speaker.

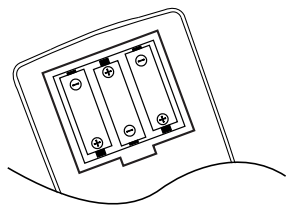
System Configuration

First Turn On and Use of the OSD

Once the speakers have been placed in the room and connected, the remaining steps are to program the system configuration memories. With the AVR5000 two kind of memories are used, those associated individually with the input selected, e.g. surround modes, and others working independently from any input selected like speaker output levels, crossover frequencies or delay times used by the surround sound processor.

You are now ready to power up the AVR5000 to begin these final adjustments.

1. Plug the **Power Cable 18** into an unswitched AC outlet.
2. Press the **Main Power Switch 1** in until it latches and the word "OFF" on the top of the switch disappears inside the front panel. Note that the **Power Indicator 3** will turn amber, indicating that the unit is in the Standby mode.
3. Install the three supplied AAA batteries in the remote as shown. Be certain to follow the (+) and (-) polarity indicators that are on the bottom of the battery compartment.



4. Turn the AVR5000 on either by pressing the **System Power Control 2** or the **Input Source Selector 11** on the front panel, or via the remote by pressing the **AVR Selector 6** or any of the **Input Selectors 5 7** on the remote. The **Power Indicator 3** will turn green to confirm that the unit is on, and the **Main Information Display 25** will also light up.

Using the On-Screen Display

When making the following adjustments, you may find them easier to make via the unit's on-screen display system. These easy-to-read displays give you a clear picture of the current status of the unit and facilitate speaker, delay, input or digital selection you are making.

To view the on-screen displays, make certain you have made a connection from the **Video Monitor Out jack 13** on the rear panel to the composite or S-Video input of your TV or projector. In order to view the AVR's displays, the correct video input must be selected on your video display.

IMPORTANT NOTE: When viewing the displays on a projection TV it is important that they not be left on the screen for an extended period of time. As with any video display, but particularly with

projectors, constant display of a static image such as these menus or video game images may cause the image to be permanently "burned into" the CRT. This type of damage is not covered by the AVR5000 warranty and may not be covered by the projector TV set's warranty.

The AVR5000 has two on-screen display modes, "Semi-OSD" and "Full-OSD." When making configuration adjustments, it is recommended that the Full-OSD mode be used. This will place a complete status report or option listing on the screen, making it easier to view the available options and make the settings on the screen. The Semi-OSD mode uses one-line displays only.

Note that when the full OSD system is in use, the menu selections are not shown in the **Information Display 25 Y**. When the full OSD menu system is used, OSD ON will appear in the **Main Information Display Y** and the **OSD Indicator M** will illuminate to remind you that a video display must be used.

When the semi-OSD system is used in conjunction with the discrete configuration buttons, the on screen display will show a single line of text with the current menu selection. That selection will also be shown in the **Main Information Display Y**.

Selecting the On-Screen display

The full OSD system is always available by pressing the **OSD button 22**. When this button is pressed the **MASTER MENU** (Figure 1) will appear, and adjustments are made from the individual menus. Note that the menus will remain on the screen for 20 seconds after the latest action was made on the screen menu, then they will "time-out" and disappear from the screen. The time-out may be increased to as much as 50 seconds by going to the **ADVANCED SELECT** menu, and changing the item titled **FULL OSD TIME OUT**.

The semi-OSD system is also available as a system default, although it may be turned off by using the **ADVANCED SELECT** menu. (See page 37). With the semi-OSD system, you may make adjustments directly, by pressing the buttons on the front panel or remote control for the specific parameter to be adjusted as outlined above.

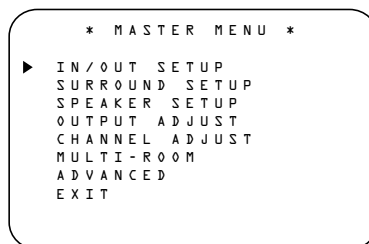


Figure 1

Settings to be Made With Each Input Used

The AVR5000 features an advanced memory system that enables you to establish different configurations for the speaker configuration, digital input and surround mode for each input source. This flexibility enables you to custom tailor the way in which you listen to each source and have the AVR5000 memorize them. This means, for example, that you may associate different surround modes and analog or digital inputs with different sources, or set different speaker configurations with the resultant changes to the bass management system. Once these settings are made, they will automatically be recalled whenever you select an input.

The default settings for the AVR5000, as it is shipped from the factory, have all inputs set for an analog source, with stereo as the surround mode, the front left and right speakers set to "large" (with surround modes other speakers to "small"), and a subwoofer connected. Before using the unit, you will probably want to change these settings for most inputs so that they are properly configured to reflect the use of digital or analog inputs, the type of speakers installed and the surround mode specifics. Remember, since the AVR5000's memory system keeps the settings for each input separate from the other inputs, you will need to make these adjustments for each input used. However, once they are made, further adjustment is only required when system components are changed.

To make this process as quick and as easy as possible, we suggest that you use the full-OSD system with the on-screen menus, and step through each input. Once you have completed the settings for the first input, many settings may be duplicated for the remaining inputs. It is also a good idea to set the configuration data in the order these items are listed in the Main Audio Setup Menu, as some settings require a specific entry in a prior menu item.

The items that follow will describe the individual settings required for each input. Remember that once the settings are made for one input, they must be made for all other input sources in your system.

System Configuration

Input Setup

The first step in configuring the AVR5000 is to select an input. This may be done by pressing the front panel **Input Source Selector** **11** until the desired input's name appears momentarily in the **Main Information Display** **Y**, and the green LED lights next to the input's name in the front panel **Input Indicators** **22**. The input may also be selected by pressing the appropriate Input Selector on the remote control **5 7**.

When using the full-OSD system to make the setup adjustments, press the **OSD** button **22** once so that the **MASTER MENU** (Figure 1) appears. Note that the ► cursor will be next to the **IN/OUT SETUP** line. Press the **Set** button **16** to enter the menu and the **IN/OUT SETUP** menu (Figure 2) will appear on the screen. Press the ◀▶ buttons **15 31** until the desired input name appears in the highlighted video, as well as being indicated in the front panel **Input Indicators** **22** by the green LED next to the desired input name. If the input will use the standard left/right analog inputs, no further adjustment is needed.

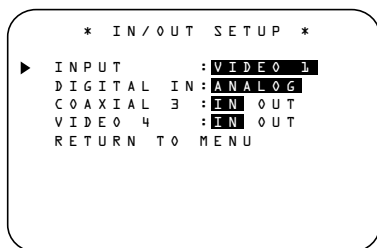


Figure 2

If you wish to associate one of the digital inputs with the selected input source, press the ▼ button **14** on the remote while the **IN/OUT SETUP** menu (Figure 2) is on the screen, and note that the on-screen cursor will drop down to the **DIGITAL IN** line. Press the ◀▶ buttons **15 31** until the name of the desired digital input name appears. To return to the **ANALOG** input, press the buttons until the word analog appears. When the correct input appears, press the ▼ button **14** until the ► cursor appears next to **RETURN TO MENU**, and press the **Set** button **16**.

To change the digital input associated with the input selected at any time using the discrete function buttons and the semi-OSD system, press the **Digital Input Select** button **24 17** on the front panel or the remote. Within five seconds, make your input selection using the **Selector** buttons on the front panel **5** or the ▲/▼ buttons **14** on the remote until the desired digital or analog input is shown in the **Main Information Display** **Y** and in the lower third of the video display connected to the AVR5000. Then press the **Set** button **16** to enter the new digital input assignment.

An exclusive Harman Kardon feature is the ability to switch front panel jacks from their normal use as inputs to output connections so that portable recording devices may easily be connected. The front panel analog **Video 4 Jacks** **16** are normally set as an input for use with camcorders, video games and other portable audio/video products, but they may be switched to an output for connection to portable audio/video recorders. To temporarily switch them to outputs, select the **IN/OUT SETUP** menu. Press the ▼ button **14** until the on-screen ► cursor is pointing to the **VIDEO 4** line. Press the ► button **31** so that the word **OUT** is highlighted. Note that the **Input/Output Status Indicator** **14** between the S and Composite video jacks will turn red, indicating that the analog **Video 4 jacks** **16** are now record outputs.

On the AVR5000, the **Coaxial 3 Digital Jack** **15** is normally an input, but it may also be switched to a digital output for use with CD-R/RW decks, MD recorders or other digital audio recorders. To change the jack to an output, press the ▲/▼ buttons **14** while the **IN/OUT SETUP** menu is on the screen so that the ► cursor is next to **COAXIAL 3**. Then press the ◀▶ buttons **15 31** so that the word **OUT** is highlighted. Note that the **Digital Coax 3 Status Indicator** **14** will turn red, indicating that the jack is now a record output.

Note: A signal will be sent to this jack only when the input selected for use by the AVR5000 is digital. Digital signals will be passed through regardless of their format, and which digital input (optical or coax) they are fed from. However, analog signals are not converted to digital, and the format of the signal (e.g., PCM, Dolby Digital or DTS) may not be changed.

Selection of the Digital Coax 3 jack as an output will remain effective as long as the AVR 5000 is on. However, once the unit is turned off, the jack will revert to its normal use as an input when the unit is turned on again.

Surround Setup

Once the input setup has been completed, the next step for that input is to set the surround mode you wish to use with that input. Since surround modes are a matter of personal taste, feel free to select any mode you wish – you may change it later. The Surround Mode chart on page 28 may help you select the mode best suited to the input source selected. However, to make it easier to establish the initial parameters for the AVR5000, it is best to select Dolby Pro Logic for most analog inputs and Dolby Digital for inputs connected to digital sources. In the case of inputs such as a CD Player, Tape Deck or Tuner, you may wish to set the mode to Stereo, if that is your preferred listening mode for standard stereo sources, where it is unlikely that sur-

round encoded material will be used.

Alternatively, the 5 Channel Stereo or Logic 7 Music mode may also be a good choice for stereo-only source material.

It is easiest to complete the surround setup using the full-OSD on-screen menus. From the main **MASTER MENU** menu (Figure 1), press the ▲/▼ button **14** until the ► cursor is next to the **SURROUND SETUP** menu. Press the **Set** button **16** so that the **SURROUND SETUP** menu (Figure 3 or 4) is on the screen.

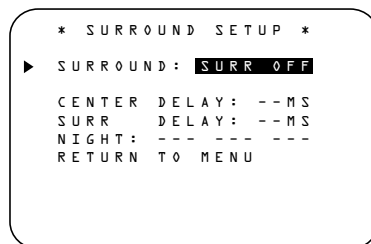


Figure 3

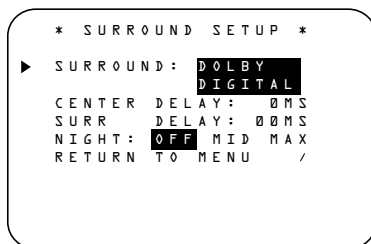


Figure 4

Since the factory default for all inputs is Stereo, the words **Surr OFF** will initially appear in highlighted video (Figure 3) unless another surround mode choice was made with the input just selected. To change the surround mode while the ► cursor is next to the surround line, press the ◀▶ buttons **15 31** until the desired surround mode's name appears in the highlighted video. As the modes are changed, a green LED will also light next to the mode names in the **Surround Mode Indicators** **29** on the front panel.

Note that the data lines next to the items in the screen display will show either numbers or a series of dashes, depending on whether or not the specific parameter is adjustable. For example, the Center Delay and Night Mode items are only adjustable for Dolby Digital, and the Delay Time is only adjusted for Dolby Digital and Dolby Pro Logic. Note, also, that Dolby Digital and DTS will only appear as choices (Figure 4) when a digital input was previously selected. These settings for Delay, Crossover Frequency and Night mode, that are independent of any input selected, will be described in the next chapter on page 23.

System Configuration

Speaker Setup

This menu tells the AVR5000 which type of speakers are in use. This is important as it adjusts the settings that determine which speakers receive low frequency (bass) information. For each of these settings use the **LARGE** setting if the speakers for a particular position are traditional full-range loudspeakers that are capable of reproducing sounds below 100Hz. Use the **SMALL** setting for smaller, frequency-limited satellite speakers that do not reproduce sounds below 100Hz. Note that when "small" front (left and right) speakers are used, a subwoofer is required to reproduce low frequency sounds. If you are in doubt as to which category describes your speakers, consult the specifications in the speakers' owner's manual, or ask your dealer. Remember that the speaker setup must be made individually for each input of the AVR5000.

It is best to select the Dolby Pro Logic mode for making the speaker setup. You should note the surround mode you've associated with the selected input, select the Dolby Pro Logic mode and after the speaker setup was made with that input, reset to the surround mode formerly selected. Note that with the currently selected input all settings will be copied to other surround modes too (as far as possible) and need not be repeated with any other mode (but with each input used).

1. It is easiest to enter the proper settings for the speaker setup through the **SPEAKER SETUP** menu (Figure 5). If that menu is not already on your screen from the prior adjustments, press the **OSD** button **22** to bring up the **MASTER MENU** (Figure 1), and then press the **▼** button **14** twice so that the cursor is on the **SPEAKER SETUP** line. At this point, press the **Set** button **16** to bring up the **SPEAKER SETUP** menu (Figure 5).

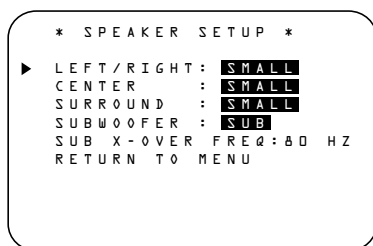


Figure 5

2. When the **SPEAKER SETUP** menu appears, the on-screen cursor **▶** will be at the top of the list of speaker positions, pointing toward the **LEFT/RIGHT** line, which sets the configuration for the front left and right speakers. If you wish to make a change to the front speakers configuration, press the **◀▶** buttons **15 31** so that either **LARGE** or **SMALL** appears, matching the appropriate description from the definitions shown above.

When **SMALL** is selected, low frequency front channel sounds will be sent only to the subwoofer output. Note that if you choose this option and there is no subwoofer connected, you will not hear any low frequency sounds from the front channels.

When **LARGE** is selected, a full-range output will be sent to the front left and front right outputs. Depending on the choice made in the **SUBWOOFER** line in this menu (see below), the front left and right bass information may also be directed to a subwoofer.

Important Note: When a speaker set with two front satellites and a passive subwoofer is used, connected to the **front speaker outputs 14**, the fronts must be set for **LARGE**.

3. When you have completed your selection for the front channel, press the **▼** button **14** on the remote to move the cursor to **CENTER**.

4. Press the **◀▶** buttons **15 31** on the remote to select the option that best describes your Center speaker based on the speaker definitions shown on this page.

When **SMALL** is selected, low frequency center channel sounds will be sent to the Fronts, if they are set for **LARGE** and Sub is turned off. When Sub is on, low frequency center channel sounds will be sent to the subwoofer only.

When **LARGE** is selected, a full-range output will be sent to the center speaker output, and with analog and digital surround modes **NO** center channel signal will be sent to the subwoofer output.

When **NONE** is selected, no signal will be sent to the center channel output. The receiver will operate in a "phantom" center channel mode and center channel information will be sent to the left and right front channel outputs. This mode is needed if no Center speaker is used (note that for the use of Logic 7C surround mode a Center speaker is needed, but Logic 7M works well without a Center too).

5. When you have completed your selection for the center channel, press the **▼** button **14** on the remote to change the cursor to **SURROUND**.

6. Press the **◀▶** buttons **15 31** on the remote to select the option that best describes the surround speakers in your system based on the speaker definitions shown on this page.

When **SMALL** is selected, low frequency surround channel sounds will be sent to the Fronts, when Sub is turned off, or to the subwoofer output when Sub is on. With Pro Logic mode, there is no bass in the surround channels.

When **LARGE** is selected, a full-range output will be sent to the surround channel outputs (with all analog and digital surround modes),

and, except with Hall and Theater modes, **NO** surround channel bass will be sent to the subwoofer output.

When **NONE** is selected, surround sound information will be split between the front-left and front-right outputs. Note that for optimal performance when no surround speakers are in use, the Dolby 3 Stereo mode should be used instead of Dolby Pro Logic.

7. When you have completed your selection for the surround channel, press the **▼** button **14** on the remote to move the cursor to **SUBWOOFER**.

8. Press the **◀▶** buttons **15 31** on the remote to select the option that best describes your system.

The choices available for the subwoofer position will depend on the settings for the other speakers, particularly the front left/right positions.

If the front left/right speakers are set to **SMALL**, the subwoofer will automatically be set to **SUB**, which is the "on" position.

If the front left/right speakers are set to **LARGE**, three options are available:

- If no subwoofer is connected to the AVR5000, press the **◀▶** buttons **15 31** on the remote so that **NONE** appears in the on-screen menu. When this option is selected, all bass information will be routed to the front left/right "main" speakers.
- If a subwoofer is connected to the AVR5000, you have the option to have the front left/right "main" speakers reproduce bass frequencies at all times, and have the subwoofer operate only when the AVR5000 is being used with a digital source that contains a dedicated Low Frequency Effects, or LFE soundtrack. This allows you to use both your main and subwoofer speakers to take advantage of the special bass created for certain movies. To select that option press **◀▶** buttons **15 31** on the remote so that **SUB (LFE)** appears in the on-screen menu.

- If a subwoofer is connected and you wish to use it for bass reproduction in conjunction with the main front left/right speakers, regardless of the type of program source or surround mode you are listening to, press the **◀▶** buttons **15 31** on the remote so that **SUB L/R + LFE** appears in the on-screen menu. When this option is selected, a "complete" feed will be sent to the front left/right "main" speakers, and the subwoofer will receive the front left and right bass frequencies under frequency selected in the next option setting on this menu, as described below.

9. When you have completed your selection for the subwoofer, press the **▼** button **14** on the remote to change the cursor to **SUB X-OVER FREQ**.

System Configuration

At this line you will select the frequency at which bass information is directed to the **Subwoofer Output 12**. The choices available will depend on the setting made previously for the front left/right speakers. When making these selections, choose the crossover frequency that is closest to the lower frequency limit of your front left/right speakers or, if using large full range front L/R speakers able to reproduce bass below 40Hz, choose the frequency that is closest to the upper frequency limit of your subwoofer. This figure is normally printed in the Owner's Manual or data sheet for the speakers, or consult the speaker's manufacturer.

- When the front speakers have been set to **LARGE**, the crossover choices are **40Hz** or **60Hz** to match the typical crossover points of full range speakers. Choose the option that is closest to your speakers' design.

- When the front speakers have been set to **SMALL**, the crossover choices are **80Hz** or **100Hz** to match the typical crossover points of the smaller speakers used in satellite speaker systems. Choose the option that is closest to your speakers' design.

10. When all speaker selections have been made, press the **▼** button **14** and then the **Set** button **16** to return to main menu.

11. The Speaker Configuration may also be changed at any time without using the full-OSD on-screen menu system by pressing the **Speaker Select** button on the front panel **27** or remote **32**. Once the button is pressed, **FNT SPEAKER** will appear in both the lower third of the video display and the **Main Information Display Y**.

Within five seconds, either press the front panel **◀▶** Selector buttons **5** or the **▲/▼** buttons **14** on the remote to select a different speaker position, or press the **Set** Button **21 16** to begin the adjustment process for the front left and right speakers

When the **Set** button **21 16** has been pressed and the system is ready for a change to the front speaker setting, the on-screen display and **Main Information Display Y** will read **FNT LARGE** or **FNT SMALL** depending on the current setting. Press the front panel **◀▶** Selector Buttons **5** or the **▲/▼** buttons **14** on the remote until the desired setting is shown, using the instructions for "large" or "small" shown earlier, then press the **Set** button **21 16**.

If another speaker position needs to be changed, press the front panel **◀▶** Selector buttons **5** or the **▲/▼** buttons **14** on the remote to select a different speaker position, press the **Set** button **21 16** and then press the front panel **◀▶** Selector buttons **5** or the **▲/▼** buttons **14** on the remote until the correct speaker setting is shown and press the **Set** button **21 16** again to confirm the selection.

To assist in making these settings, the icons in the **Speaker/Channel Input Indicators Q** will change as the speaker type is selected at each position. When only the inner icon box is lit, the speaker is set for "small." When the inner box and the two outer boxes with circles inside them are lit, the speaker is set for "large." When no indicator appears at a speaker location, that position is set for "none" or "no" speaker.

Note: These icons are available only when making setup changes in the semi-OSD mode.

As an example, in Figure 6 below, the left front and right front speakers are set for "large," the center, left surround and right surround speakers are set for small, and a subwoofer is set.

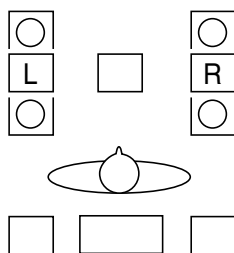


Figure 6

Adjustments for Other Inputs

After one input has been adjusted for surround mode, digital input (if any) and speaker type, return to the **INPUT SETUP** line on the **AUDIO SETUP** menu and enter the settings for each input that you will use. In most cases, only the digital input and surround mode will be different from one input to the next, while the speaker type will usually be the same and may be quickly entered by entering the same data used for the original input.

Making Settings independent of selected Input

After the settings described above have been made for all input sources in your system, the following settings, made with any input, will remain in effect independent of the input selected.

In order to set delay time for Dolby Digital and Dolby Pro Logic surround modes, the OSD menu system must be used.

Delay Settings

Only for the Dolby Digital or Dolby Pro Logic modes, you will need to adjust the delay time setting. Note that the delay time is not adjustable for any other modes.

Important Note: Once the delay time is set with any input it will be effective with all other inputs too. Moreover the surround delay time setting must be made only for either the Dolby Pro Logic or the Dolby Digital mode. The other setting will be set automatically.

Due the different distances between the listening position for the front channel speakers and the surround speakers, the amount of time it takes for sound to reach your ears from the front or surround speakers is different. You may compensate for this difference through the use of the delay settings to adjust the timing for the specific speaker placement and acoustic conditions in your listening room or home theater.

The factory setting is appropriate for most rooms, but some installations create an uncommon distance between the front and surround speakers that may cause the arrival of front channel sounds to become disconnected from surround channel sounds.

To resynchronize the front and surround channels, follow these steps:

1. Measure the distance from the listening/ viewing position to the front speakers in meters.
 2. Measure the distance from the listening/ viewing position to the surround speakers.
 3. Subtract the distance to the surround speakers from the distance to the front speakers and multiply the result by 3.
- a. When setting the delay time for the Dolby Digital surround modes, the optimal delay time is the result of that subtraction. For example, if the front speakers are 3 m away and the surround speakers are 1 m away, the optimal delay time is figured as $(3-1) \times 3 = 6$. Thus, in this example, the delay time for Dolby Digital should be set at six milliseconds.
- b. When setting the delay time for the Pro Logic mode, take the result of the subtraction and add 15 to obtain the optimal delay time. For example, if the front speakers are 3 m away

System Configuration

and the surround speakers are 1 m away, the optimal delay time is figured as $(3-1) \times 3 + 15 = 21$. Thus, in this example, the Pro Logic delay should be set at twenty milliseconds.

NOTE: The DTS, Logic 7, 5CH Stereo, Hall and Theater modes use a fixed, nonadjustable delay time.

The Dolby Digital Mode also includes a separate setting for the center channel delay mode, since the discrete nature of these signals makes the location of the center channel speaker more critical. To calculate the delay for the center channel, measure the distance from the preferred listening position in the center of the room to both the center channel speaker and either the left or right speaker.

If the distances are equal, no further adjustment is required and the center delay should be set to zero. If the distance to the front speakers is greater than the distance to the center speaker, you may wish to reposition the speakers by moving the front left and front right speakers closer to the listening position or the center speaker further away from the listening position.

If repositioning of the speakers is not possible, adjust the center delay time, adding one millisecond of center channel delay for every 30 cm closer to the listening position the center speaker is than the front speakers. For example, if the front left and front right speakers are each 3 m from the listening position and the center channel speaker is 2.4 m away, the delay is figured as $300 \text{ cm} - 240 \text{ cm} = 60 \text{ cm}$, suggesting an optimal center delay of 2 milliseconds.

To set the delay time, continue within the **MASTER MENU** (Figure 1). If the system is not already at that point, press the **OSD** button **22** to bring up the master menu. To make the delay settings for the Dolby Digital mode (this will include the Center delay setting, and the surround delay for the Pro Logic mode will be set automatically), press the **Set** **16** button and select any input now that is associated with a digital input and the Dolby Digital surround mode (the surround mode associated with each input selected will be indicated by the **Surround Mode Indicators** **29** in the front panel), then return to the master menu. Press the **▼** button **14** and then the **Set** button **16** to bring up the surround setup menu, now press the **▼** button **14** once.

As the Dolby Digital mode is selected, the **►** cursor will stop at the **CENTER DELAY** line. Press the **◀▶** buttons **15 31** until the number calculated using the formula shown above appears in the display. When the **CENTER DELAY** is entered, press the **▼** button **14** once to move to the **SURROUND DELAY** line so that the delay for the surround speakers may be set. Press the **◀▶** buttons **15 31** until the desired figure appears in the display, using the number calculated using the formula shown above for the Dolby Digital surround mode (item 3a). When the delay settings are complete, press the **▼** button **14** once to move to the next line.

Note that the delay settings may also be adjusted at any time when the Dolby Digital or Dolby Pro Logic modes are in use by pressing the **Delay** button on the front panel **23** or remote **30**, followed by a press of the **Set** button **16**. Next, press the **▲/▼** buttons **14** on the remote or the **Selector** buttons **5** on the front panel until the desired figure appears in the **Main Information Display Y**.

Night Mode Settings

The Night mode is a feature of Dolby Digital that uses special processing to preserve the dynamic range and full intelligibility of a movie sound track while reducing the peak level. This prevents abruptly loud transitions from disturbing others, without reducing the sonic impact of a digital source. Note that the Night mode is only available when Dolby Digital signals are played.

To adjust the Night mode setting from the menu, make certain that the **►** cursor is on the Night line of the **SURROUND SETUP** menu. Next, press **◀▶** buttons **15 31** to choose between the following settings.

OFF: When **OFF** is in the highlighted video, the Night mode will not function.

MID: When **MID** is in the highlighted video, a mild compression will be applied.

MAX: When **MAX** is in the highlighted video, a more severe compression algorithm will be applied.

We recommend that you select the MID setting as a starting point and change to the MAX setting later, if desired.

Note that the Night mode may be adjusted directly any time that a Dolby Digital source is playing by pressing the **Night** button **12**. When the button is pressed, the words **D - RANGE** will appear in the lower third of the video screen and in the **Main Information Display Y**. Press the **▲/▼** button **14** within three seconds to select the desired setting, then press **Set** **16** to confirm the setting.

When all settings for the surround setup have been made, press the **▲/▼** buttons **14** so that the **►** cursor is next to **RETURN TO MENU**, and press the **Set** button **16** to return to the master menu.

Output Level Adjustment

Output level adjustment is a key part of the configuration process for any surround sound product. It is particularly important for a Dolby Digital receiver such as the AVR5000, as correct outputs will ensure that you hear sound tracks with the proper directionality and intensity.

NOTE: Listeners are often confused about the operation of the surround channels. While some assume that sound should always be coming from each speaker, most of the time there will be little or no sound in the surround channels. This is because they are only used when a movie director or sound mixer specifically places sound there to create ambiance, a special effect or to continue action from the front of the room to the rear. When the output levels are properly set it is normal for surround speakers to operate only occasionally. Artificially increasing the volume to the rear speakers may destroy the illusion of an enveloping sound field that duplicates the way you hear sound in a movie theater or concert hall.

IMPORTANT NOTE: The output level can be adjusted for each digital and analog surround mode separately. This allows you to compensate for level differences between speakers, that may also vary with the surround mode selected, or to increase or decrease the level of certain speakers intentionally, depending on the surround mode selected.

Before beginning the output level adjustment process, make certain that all speaker connections have been properly made. The system volume should be turned down at first. Finally, make certain that the **Balance Control** **18** is set to the center "12 o'clock" position.

System Configuration

Using EzSet

Harman Kardon's exclusive EzSet remote makes it possible to quickly and accurately set the AVR5000's output levels without the use of a sound pressure meter, although manual adjustment is also available. However, for the easiest set-up, follow these steps while seated in the listening position that will be used most often:

1. Make certain that all speaker positions have been properly configured for their "large" or "small" settings (as outlined above) and turn off the OSD system if it is in use.

2. Adjust the volume so that it is at **-15**, as shown in the on-screen display or **Main Information Display** **Y**.

3. Select any input associated with the Dolby Pro Logic surround mode. Remember to make the same adjustment with all other surround modes you've associated with the inputs used.

4. First a non-automatic pre-test should be made: Turn on the internal test tone by pressing the **Test tone** button **9**. You will hear a test noise circulate from speaker to speaker in a clockwise direction around the room.

Listen to make certain that the sound comes from the speaker position shown in the **Main Information Display** **Y**. If the sound from a speaker location does NOT match the position indicated, turn the AVR5000 off using the **Main Power Switch** **1** and check the speaker wiring to make certain that each speaker is connected to the correct output terminal.

5. Hold the remote in front of you at arm's length, making sure not to cover the EzSet Sensor Microphone **39** at the top of the remote and aim it at the AVR5000, not vertically (like you'd do with a microphone).

6. Press and hold the **SPL Indicator Select** **36** for three seconds. Release the button when the **Program/SPL Indicator** **3** stops flashing and you hear the test noise from the front left speaker.

7. At this point, the EzSet circuitry will take over, adjusting the output level of each channel so that when the process is complete all levels will be equal and at the set reference point. This process may take a few minutes, depending on the extent of adjustment required.

8. During the adjustment you will see the location of the channel position being adjusted appear in both the on-screen display (if connected) and the **Main Information Display** **Y**, alternating with a readout of the output setting, relative to the reference volume level. As the adjustment proceeds, a few things will happen simultaneously:

- The channel position being adjusted will flash in the **Speaker/Channel Position Indicators** **Q**. If the test noise is heard from a channel other than the one shown in the Indicator, there is an error in the speaker connections. If this is the case, press the **Test Button** **9** TWICE to stop the adjustment. Then, turn the unit off and verify that all speakers are connected to the proper **Outputs** **14/15**.

- When the front left channel is being set at the beginning of the process, EzSet will adjust the main volume level, as shown by the indication of the **FRONT LEVEL** alternating in the on-screen display (if connected) and the **Main Information Display** **Y** with the volume indication. During the adjustment, the test tone may seem to pulse, or click, as EzSet changes the level. This is a normal aspect of the system's operation.

- As the other channels are set, the channel name and the adjustment offset will appear in the on-screen display (if connected) and the **Main Information Display** **Y**. While the level is changing, the **Program/SPL Indicator** **3** will change colors to reflect the output level in relation to the reference. A red indication shows that the level is too high, while an amber indication shows that the level is too low. When the Indicator is green, the level is correct, and the test noise will move to the next channel.

- While adjustments are being made, the red LED under the **AVR Selector** **6** will flash. This is normal, and indicates that EzSet is operating.

9. After the test noise has circulated once through each channel, it will send the tone to the front left channel once again, to finally adjust its output level.

10. Upon completion of the front left channel adjustment, the Program/SPL Indicator will flash green three times and then go out. The tone will stop and the AVR5000 will return to normal operation.

Manual Output Level Adjustment

Output levels may also be adjusted manually, either to set them to a specific level with an SPL meter, or to make fine tuning adjustments to the levels obtained using the EzSet remote.

Manual output level adjustment is most easily done through the **OUTPUT ADJUST** menu (Figure 7). If you are already at the main menu, press the **▼** buttons **14** until the on-screen **►** cursor is next to the **OUTPUT ADJUST** line. If you are not at the main menu, press the **OSD** button **22** to bring up the **MASTER MENU** (Figure 1), and then press the **▼** buttons **14** three times so that the on-screen **►** cursor is next to the Output adjust line. Press the **Set** button **16** to bring the **OUTPUT ADJUST** menu (Figure 7) to the screen.

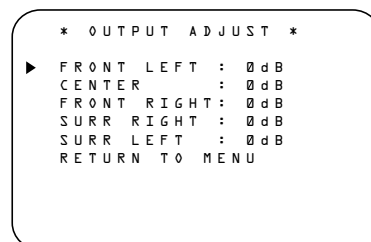


Figure 7

As soon as the new menu appears, you will hear a test noise circulate from speaker to speaker in a clockwise direction around the room. The test noise will play for two seconds in each speaker before circulating, and a blinking on-screen cursor will appear next to the name of each speaker location when the sound is at that speaker. Now turn up the volume until you can hear the noise clearly.

IMPORTANT NOTE: Because this test noise will have a much lower level than normal music, the volume must be lowered after the adjustment for all channels is made, but BEFORE you return to the main menu and the test tone turns off.

After checking for speaker placement, let the test noise circulate again, and listen to see which channels sound louder than the others. Using the front left speaker as a reference, press the **◀▶** buttons **15/31** on the remote to bring all speakers to the same volume level. Note that when one of the **◀▶** buttons is pushed, the test noise circulation will pause on the channel being adjusted to give you time to make the adjustment. When you release the button, the circulation will resume after five seconds. The on-screen cursor **►** can also be moved directly to the speaker to be adjusted by pressing the **▲/▼** buttons **14** on the remote.

System Configuration

Continue to adjust the individual speakers until they all have the same volume. Note that adjustments should be made with the ◀▶ buttons 15 31 on the remote only, NOT the main volume controls.

You may also adjust the output levels manually while using the level indication feature of the EzSet remote. To activate the sensor and indicator, simply press and release the **SPL Indicator Select** button 36 on the remote while the test tone is circulating. The **Program/SPL Indicator** 3 will change color to indicate the level. Because the remote functions as level sensor, in that case all further adjustments can be made with the front panel buttons only, with help of an assisting person. Adjust the level using the ◀▶ buttons 5 on the front panel until the LED lights green for all channels. When it is red the level is too high; when it is amber the level is too low. Press the **SPL Indicator Select** 36 button when you are finished to turn the sensor and Indicator off.

NOTE: The subwoofer output level is not adjustable using the test tone. To change the subwoofer level, follow the steps for Output Level Trim Adjustment on page 32.

When all channels have an equal volume level, the adjustment is complete. Now turn the **Volume** 20 34 down to about -40dB, otherwise the listening level may be too high as soon as the source's music starts to play. To exit this menu, press the ▲/▼ buttons 14 until the on-screen ▶ cursor is next to the **RETURN TO MENU** line, and then press the **Set** button 16 to turn the test tone off and return to the **MASTER MENU**.

The output levels may also be adjusted at any time using the discrete buttons and semi-OSD system. To adjust the output levels in this fashion, press the **Test Tone Selector** 28 9. As soon as the button is pressed, the test tone will begin to circulate as indicated earlier. The correct channel from which the test noise should be heard will be shown in the lower third of the video screen and in the **Main Information Display** Y. As an added assist, while the test noise is circulating, the proper channel position will also be indicated in the **Speaker/Channel Indicators** Q by a blinking letter within the correct channel. Turn up the **Volume** 20 34 until you can hear the noise clearly.

To adjust the output level, press the **Selector** buttons on the front panel 5 or the ◀▶ buttons 15 31 until the desired level is shown in the display or on screen. Once the buttons are released, the test noise will begin to circulate again in five seconds.

When all channels have the same output level, turn the **Volume** 20 34 down to about -40dB, otherwise the listening level may be too high as soon as the source's music starts to play. Afterwards press the **Test Tone Selector** 28 9 button again to turn the test tone off and complete the process.

IMPORTANT NOTE: The Output level adjustment made will be effective for all inputs, but only for the actual surround mode selected. To be effective for any other mode select that mode (with any input) and repeat the level adjustment described above. This will also allow you to compensate level differences between speakers, that may be different with each surround mode, or to increase or decrease the level of certain speakers intentionally, depending on the surround mode selected.

Note: Output level adjustment is not available for the VMaX or Surround Off mode, as no surround speakers are used (so level differences between the speakers in the room cannot occur). But to compensate level differences between stereo, VMaX and other surround modes (independently from the input selected) the outputs can be adjusted with the Level Trim Adjustment procedure, see page 32, also for the Surround Off (Stereo) and VMaX modes.

Once the settings outlined on the previous pages have been made, the AVR5000 is ready for operation. While there are some additional settings to be made, these are best done after you have had an opportunity to listen to a variety of sources and different kinds of program material. These advanced settings are described on pages 36-37 of this manual. In addition, any of the settings made in the initial configuration of the unit may be changed at any time. As you add new or different sources or speakers, or if you wish to change a setting to better reflect your listening taste, simply follow the instructions for changing the settings for that parameter as shown above. Note that any settings changed at any time, also when the discrete buttons are used only, will be stored in memory in the AVR5000, also if it's turned off completely, unless it will be reset (see page 56). The settings will either depend on the input (Speaker configuration, analog/digital input selection, surround mode) or on the surround mode selected (speaker output level) or be independent from any input or surround mode (crossover, only depending on the front speaker configuration), as described on previous pages. Having completed the setup and configuration process for your AVR5000, you are about to experience the finest in music and home theater listening. Enjoy!

Operation

Basic Operation

Once you have completed the setup and configuration of the AVR5000, it is simple to operate and enjoy. The following instructions should be followed for you to maximize your enjoyment of your new receiver:

Turning the AVR5000 On or Off

- When using the AVR5000 for the first time, you must press the **Main Power Switch 1** on the front panel to turn the unit on. This places the unit in a Standby mode, as indicated by the amber color of the **Power Indicator 3**. Once the unit is in Standby, you may begin a listening session by pressing the **System Power Control 2** or the **Source button 11** on the front panel or the **AVR Selector 6 B**. Note that the **Power Indicator 3** will turn green. This will turn the unit on and return it to the input source that was last used. The unit may also be turned on from Standby by pressing any of the **Source Selector buttons** on the remote **5 37 7 B C D**.

NOTE: After pressing one of the **Input Selector buttons 5 D** (except VID4) to turn the unit on, press the **AVR Selector 6 B** to have the remote control the AVR functions.

To turn the unit off at the end of a listening session, simply press the **System Power Control 2** on the front panel or the **Power Off Button 4 A** on the remote. Power will be shut off to any equipment plugged into the rear panel **Switched AC Outlets 16** and the **Power Indicator 3** will turn amber.

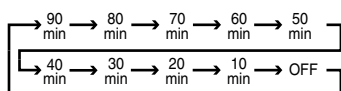
When the remote is used to turn the unit "off" it is actually placing the system in a Standby mode, as indicated by the amber color of the **Power Indicator 3**.

When you will be away from home for an extended period of time it is always a good idea to completely turn the unit off with the front panel **Main Power Switch 1**.

NOTE: All preset memories may be lost if the unit is left turned off with the **Main Power Switch 1** for more than two weeks.

Using the Sleep Timer

- To program the AVR5000 for automatic turn-off, press the **Sleep Button 10** on the remote. Each press of the button will increase the time before shut down in the following sequence:



The sleep time will be displayed in the **Preset Number/Sleep Timer Indicator R** and it will count down until the time has elapsed.

When the programmed sleep time has elapsed, the unit will automatically turn off (to Standby mode). Note that the front panel display will dim to one half brightness when the Sleep function is programmed. To cancel the Sleep function, press and hold the **Sleep Button 10** until the information display returns to normal brightness and the Sleep indicator numbers disappear and the words **S L E E P O F F** appear in the **Main Information Display Y**.

Source Selection

- To select a source, press any of the **Source Selector buttons** on the remote **5 7 C D**.

NOTE: After pressing one of the **Input Selector buttons 5 D** (except VID4) to turn the unit on, press the **AVR Selector 6 B** to have the remote control the AVR functions.

- The input source may also be changed by pressing the front-panel **Input Source Selector button 11**. Each press of the button will move the input selection through the list of available inputs.

- As the input is changed, the AVR5000 will automatically switch to the digital input (if selected), surround mode and speaker configuration that were entered during the configuration process for that source.

- The front-panel **Video 4 Inputs 16** may be used to connect a device such as a video game or camcorder to your home entertainment system on a temporary basis.

- As the input source is changed, the new input name will appear momentarily as an on-screen display in the lower third of the video display. The input name will also appear in the **Main Information Display Y** and a green LED will light next to the selected input's name in the front-panel **Input Indicators 22**.

- When a pure audio source (Tuner, CD, Tape, 6 Channel direct inputs) is selected, the last video input used remains routed to the **Video 1 and Video 2 Outputs 23 26** (except from its own Video 1/ source) and **Video Monitor Output 13**. This permits simultaneous viewing and listening to different sources.

- When a Video source is selected, its audio signal will be fed to the speakers and the video signal for that input will be routed to the appropriate **Monitor Output jack 13** and will be viewable on a TV monitor connected to the AVR5000. If a component video input is connected to the **DVD 36** or **Video 2 35** component inputs, it will be routed to the **Component Video Outputs 34**. Make certain that your TV is set to the proper input to view the appropriate video signal (composite, S-Video or component video, see Notes for S-Video on page 16).

Controls and Use of Headphones

- Adjust the volume to a comfortable level using the front panel **Volume Control 20** or remote **Volume Up/Down 34 1** buttons.

- The **Balance Control 18** may be used to adjust the relative sound output between the left front and right front speakers.

- To temporarily silence all speaker outputs press the **Mute button 38**. This will interrupt the output to all speakers and the headphone jack, but it will not affect any recording or dubbing that may be in progress. When the system is muted, the **MUTE indicator Z** will light in the **Main Information Display 25**. Press the **Mute button 38** again to return to normal operation.

- During a listening session you may wish to adjust the **Bass Control 17** and **Treble Control 19** to suit your listening tastes or room acoustics. Note that these controls are not effective with the 6-Channel Direct Input.

- To set the output of the AVR5000 so that the output is "flat," with the Tone controls and the Balance control de-activated, press the **Tone Mode button 6** button once or twice so that the words **Tone Out** appear momentarily in the **Main Information Display Y**. To return the tone controls to an active condition, press the **Tone Mode 6** button once or twice so that the words **Tone In** momentarily appear in the **Main Information Display Y**.

- For private listening, plug the 6.3 mm stereo phone plug from a pair of stereo headphones into the front panel **Headphone Jack 4**. Note that when the headphone's plug is connected, the word **HEADPHONE** will scroll once across the **Main Information Display Y** and all speakers will be silenced. When the headphone plug is removed, the audio feed to the speakers will be restored.

Operation

Surround Mode Chart

MODE	FEATURES	DELAY TIME RANGE
DOLBY DIGITAL	Available only with digital input sources encoded with Dolby Digital data. It provides up to five separate main audio channels and a special dedicated Low Frequency Effects channel.	Center: 0 ms – 5 ms Initial Setting – 0 ms Surround: 0 ms – 15 ms Initial Setting – 0 ms
DTS	Available only with digital input sources encoded with DTS data. Available on special DVD, LD and audio-only discs, DTS provides up to five separate main audio channels and a special dedicated low frequency channel.	Delay time not adjustable
DOLBY PRO LOGIC	The standard mode for analog surround sound decoding. It uses information encoded in a two channel stereo recording to produce four distinct outputs: Left, Center, Right and a Mono Surround channel. Use this mode for accurate reproduction of programs bearing the Dolby Surround, DTS Stereo, UltraStereo or other "Surround" logos. Surround-encoded programs include videocassette, DVD and LD movies, TV and cable programs, radio programs and audio CDs. Dolby Pro Logic processing may also be used to provide a pleasing surround effect with some stereophonic source material that does not carry surround encoding.	15 ms – 30 ms Initial Setting = 15 ms
LOGIC 7 C LOGIC 7 M	An advanced mode that extracts the maximum surround information from either conventional stereo material or surround-encoded programs. When used with encoded material, decoding is more accurate in terms of the placement of sounds, and fades and pans are much smoother and more realistic than with other decoding techniques. Logic 7 also delivers increased spaciousness and a wider sound stage when it is used with conventional natural stereo recordings and music programs through the use of the natural surround information present also in those stereo recordings. The Logic 7C or Cinema mode is tailored to provide an optimal sound field for movie soundtracks. The Logic 7M or Music mode uses a decoding formula that is best suited to music.	Delay time not adjustable
DOLBY 3 STEREO	Uses the information contained in a surround encoded or two channel stereo program to create center channel information. In addition, the information that is normally sent to the rear channel surround speakers is carefully mixed in with the front left and front right channels for increased realism. Use this mode when you have a center channel speaker but no surround speakers.	No surround channels
THEATER	This surround processing uses matrix surround decoding to simulate a standard movie or stage theater with stereo and even pure mono sources.	Delay time not adjustable
HALL 1 and HALL 2	The two Hall modes offer matrix surround decoding choices that simulate a medium-sized chamber hall or opera house with stereo and even pure mono sources.	Delay time not adjustable
VMAx Near VMAx Far	When only the two front channel loudspeakers are used, Harman's patented VMAx mode delivers a three-dimensional sound space with the illusion of "phantom speakers" at the center and surround positions. The VMAx N, or "Near Field" mode should be selected when your listening position is less than 1,5m from the speakers. The VMAx F, or "Far Field" mode should be selected when your listening position is greater than 1,5m from the speakers.	No surround channels
5-Channel Stereo	This mode takes advantage of multiple speakers to place a stereo signal at both the front and back of a room. Ideal for playing music in situations such as a party, it places the same signal at the front-left and surround-left, and at the front-right and surround-right speakers. The center channel is fed a summed mono mix of the in-phase material of the left and right channels.	No delay is available for this mode
SURROUND OFF (STEREO)	This mode turns off all surround processing and presents the pure left and right channel presentation of two channel stereo programs.	No surround channels

Operation

Surround Mode Selection

One of the most important features of the AVR5000 is its ability to reproduce a full multi-channel surround sound field from digital sources, analog matrix surround encoded programs and standard stereo or even mono programs. In all, a total of thirteen listening modes are available on the AVR5000.

Selection of a surround mode is based on personal taste, as well as the type of program source material being used. For example, motion pictures or TV programs bearing the logo of one of the major surround encoding processes, such as Dolby Surround, DTS Stereo or UltraStereo⁺⁺ should be played in either the Dolby 3 Stereo or Dolby Pro Logic surround modes depending on the source material and speakers in use.

However to create wider, enveloping sound field environments and more defined pans and flyovers with all analog stereo and surround recordings select Harman Kardon's exclusive Logic 7 mode, that creates a stereophonic left and right rear signal, just as recorded in real life (e.g. sound being recorded from left rear side will be heard from that side only) for a dramatic improvement in comparison to Dolby Pro Logic.

NOTE: Once a program has been encoded with matrix surround information, it retains the surround information as long as the program is broadcast in stereo. Thus, movies with surround sound may be decoded via any of the analog surround modes such as Pro Logic or Logic 7, when they are broadcast via conventional TV stations, cable, pay TV and satellite transmission. In addition, a growing number of made-for-television programs, sports broadcasts, radio dramas and music CDs are also recorded in surround sound. You may view a list of these programs at the Dolby Laboratories Web site at www.dolby.com.

Even when a program is not listed as carrying intentional surround information, you may find that the Pro Logic, Dolby 3 Stereo or Logic 7 modes often deliver enveloping surround presentations through the use of the natural surround information present in all stereo recordings. However, for stereo programs without any surround information the Theater, Hall and 5CH Stereo modes should be tried (5CH Stereo is effective particularly with old "extreme" stereo recordings) and for mono programs, we suggest that you try the Theater or Hall modes. And when you use only two front channel speakers you should select Harman's patented VMaX mode, delivering a virtually three dimensional sound space with two speakers only.

Surround modes are selected using either the front panel controls or the remote. To select a surround mode from the front panel, press the **Surround Mode Selector** **7** to scroll through the list of available modes. To select a surround

mode using the remote, press the **Surround Mode Selector** **11**, and then press the **▲/▼** buttons **14** to change the mode. As you press the buttons, the Surround mode name will appear in the **Main Information Display** **Y**, and an individual mode indicator will also light up **C D F H I J K L N**. As the surround modes change, a green LED will light next to the current mode in the **Surround Mode Indicators** list **29** on the front panel.

Note that the Dolby Digital or DTS modes may only be selected when a digital input is in use. In addition, when a digital source is present, the AVR5000 will automatically select and switch to the correct mode (Dolby Digital or DTS), regardless of the mode that has been previously selected. For more information on selecting digital sources, see the following section of this manual.

To listen to a program in traditional two channel stereo, using the front left and front right speakers only (plus the subwoofer if installed and configured), follow the instructions shown above for using the remote until **SURR OFF** appears in the **Main Information Display** **Y**.

Digital Audio Playback

Digital audio is a major advancement over past systems such as Dolby Pro Logic. It delivers five discrete channels: left front, center, right front, left surround and right surround. Each channel reproduces full frequency range (20Hz to 20kHz) and offers dramatically improved dynamic range and significant improvements to signal-to-noise ratios. In addition, digital systems have the capability to deliver an additional channel that is specifically devoted to low frequency information. This is the ".1" channel referred to when you see these systems described as "5.1". The bass channel is separate from the other channels, but since it is intentionally bandwidth limited, sound designers have given it that unique designation.

Dolby Digital

Dolby Digital (originally known as AC-3[®]) is a standard part of DVD, and is available on specially encoded LD discs and satellite broadcasts and it is a part of the new high-definition television (HDTV) system.

Note that an optional, external RF demodulator is required to use the AVR5000 to listen to the Dolby Digital sound tracks available on laser discs. Connect the RF output of the LD player to the demodulator and then connect the digital output of the demodulator to the **Optical** or **Coaxial** inputs **28 29 13 15** of the AVR5000. No demodulator is required for use with DVD players or DTS-encoded laser discs.

DTS

DTS is another digital audio system that is capable of delivering 5.1 audio. Although both DTS and Dolby Digital are digital, they use different methods of encoding the signals, and thus they require different decoding circuits to convert the digital signals back to analog.

DTS-encoded sound tracks are available on select DVD and LD discs, as well as on special audio-only DTS CDs. You may use any LD, DVD or CD player equipped with a digital output to play DTS-encoded special audio-only CDs with the AVR5000, but DTS-LDs can be played on LD players and DTS-DVDs on DVD players only. All that is required is to connect the player's output to either the **Optical** or **Coaxial** input on the rear panel **28 29** or front panel **13 15**.

In order to listen to DVDs encoded with DTS sound tracks, the DVD player must be compatible with the DTS signal as indicated by a DTS logo on the player's front panel. Note that early DVD players may not be able to play DTS-encoded DVDs. This does not indicate a problem with the AVR5000, as some players cannot pass the DTS signal through to the digital outputs. If you are in doubt as to the capability of your DVD player to handle DTS DVDs, consult the player's owner's manual.

PCM Audio Playback

PCM (Pulse Code Modulation) is the non-compressed digital audio system used for compact discs, Non-Dolby Digital/DTS Laserdiscs and some special PCM encoded DVDs. The digital circuits in the AVR5000 are capable of high quality digital-to-analog decoding, and they may be connected directly to the digital audio output of your CD/DVD or LD player (LD only for PCM or DTS programs, for Dolby Digital laser discs an RF adapter is needed, see "Dolby Digital" above).

Connections may be made to either the **Optical** or **Coaxial** inputs **28 29** on the rear panel or the front panel **Digital Inputs** **13 15**.

To listen to a PCM digital source, first select the input for the desired source (e.g., CD) to feed its video signal (if any) to the TV monitor and to provide its analog audio signal for recording. Next press the **Digital Select** button **24 17** and then use the **▲/▼** buttons **14** on the remote, or the **Selector** buttons **5** on the front panel, until the desired choice appears in the **Main Information Display** **Y**, then press the **Set** button **21 16** to confirm the choice.

When a PCM source is playing, the **PCM** indicator **A** will light. During PCM playback you may select any surround mode except Dolby Digital or DTS. When an HDCD encoded disc is being played (see below) and the CD player is connected to the AVR 5000 via a digital connection, select Surround Off as the Surround mode to enjoy the benefits of the HDCD process.

Operation

Playback from PCM sources may also benefit from the Logic 7. When playing a stereo or surround-encoded PCM source, such as an LD or CD or a PCM audio track from DVD, use the Logic 7 C or Cinema mode. For stereo or surround encoded pure music recordings use the Logic 7 M or Music mode for a wider front sound stage (see Surround Mode Chart page 28).

HDCCD

HDCCD, which stands for High Definition Compatible Digital®, is a sophisticated process that enables the AVR 5000 to deliver outstanding digital-to-analog decoding of PCM signals from any DVD or CD player, connected to a digital input on the AVR 5000, no matter what type of CD or DVD is played and even when normal, Non-HDCCD-compatible players are used (only a digital output is needed).

When a CD with the HDCCD logo is played, the AVR 5000 is able to take advantage of the special recording process that is used in the creation of HDCCD disc. The special circuitry enables audio with extraordinary fidelity, stunning resolution and the highest possible overall quality.

The AVR 5000 will automatically sense that it is an HDCCD recording and the **HDCCD indicator A** will illuminate on the front panel to remind you that an HDCCD disc is playing.

It is important to note that the HDCCD process is completely compatible with standard recordings. Indeed, the high-quality digital-to-analog circuitry that is part of HDCCD and the HDCCD decoder chip, replacing the monolithic digital filters used in conventional DACs, will enable enhanced performance also with normal, non-HDCCD encoded program material.

MP3 Audio Playback

The AVR5000 is one of the first A/V receivers to provide on-board decoding for the MP3 audio format used on specific computer audio files and by portable MP3 players/recorders. In addition, some new CD and DVD players are capable of playing back optical discs that are recorded with MP3, rather than standard CD audio information. By offering MP3 decoding, the AVR5000 is able to deliver more precise conversion of the digital signals to an analog output, along with the benefits of listening to MP3 audio through the AVR5000's high current amplifier and the speakers from your surround system, rather than the smaller speakers and low powered amplifiers typically used with computers.

To take advantage of the AVR5000's MP3 capabilities, simply connect the PCM output of a computer sound card able to feed the MP3 format to its digital output, or the PCM output of MP3 compatible CD or DVD players or of a portable MP3 player with a digital output, to either the rear panel **Digital Inputs 13 15** or the front

panel **Digital Inputs 13 15**. When the digital MP3 signal is selected, the **MP3 Bitstream Indicator A** will light, and the audio will begin playing.

NOTES:

- The AVR5000 is only capable of playing signals in the MP3 (MPEG 1/Layer 3) format. It is not compatible with other computer audio codecs.
- The MP 3 DSP mode found in the new AVR5000 requires an MP3 SPDIF stream. Presently, only a few units provide this but in the coming generations of motherboards and operating system updates this will follow, since SPDIF is the standard for audio & video hardware.
- The digital audio input signal may be either optical or coaxial, but the signal must be in the PCM format. Direct connection of USB or serial data outputs is not possible, even though the signals are in the MP3 format. If you have any questions about the data output format from your computer or a sound card, check with the device's Owner's Manual or contact the manufacturer's technical support area.

Selecting a Digital Source

To utilize either digital mode you must have properly connected a digital source to the AVR5000. Connect the digital outputs from DVD players, HDTV receivers, satellite systems or CD players to the **Optical** or **Coaxial** inputs on the rear or front panel **28 29 13 15**. In order to provide a backup signal and a source for analog stereo recording, the analog outputs provided on digital source equipment should also be connected to their appropriate inputs on the AVR5000 rear panel (e.g., connect the analog stereo audio output from a DVD to the **DVD inputs 6** on the rear panel when you connect the source's digital outputs).

When playing a digital source such as DVD, first select its input using the remote or front panel controls as outlined in this manual in order to feed its video signal (if any) to the TV monitor and to provide its analog audio signal for recording. When the digital input appropriate with the DVD player is not selected automatically (due to the input settings made earlier during the system configuration, see page 21), select the digital source by pressing the **Digital Input Selector button 17 24** and then using the **▲/▼ buttons 14** on the remote or the **Selector buttons 5** on the front panel to choose any of the **OPTICAL** or **COAXIAL** inputs, as they appear in the **Main Information Display Y**, **Display Indicator BE** or on-screen display. When the digital source is playing, the AVR5000 will automatically detect whether it is a multi-channel Dolby Digital or DTS source or a HDCCD, MP3 or conventional PCM signal, which is the standard output from CD players. A **Bitstream Indicator A** will light in the **Main**

Information Display 25 to confirm that the digital signal is Dolby Digital, DTS, MP3, PCM or HDCCD.

Note that a digital input (e.g. coaxial) remains associated with any analog input (e.g. DVD) as soon as it is selected, thus the digital input need not be re-selected each time the appropriate input choice (e.g. DVD) is made.

Digital Status Indicators

When a digital source is playing, the AVR5000 senses the type of bitstream data that is present. Using this information, the correct surround mode will automatically be selected. For example, DTS bitstreams will cause the unit to switch to DTS decoding, and Dolby Digital bitstreams will enable Dolby Digital decoding. When the unit senses PCM data, from CDs and LDs and some music DVDs or certain tracks on normal DVDs, it will allow the appropriate surround mode to be selected manually. Since the range of available surround modes depends on the type of digital data that is present, the AVR5000 uses a variety of indicators to let you know what type of signal is present. This will help you to understand the choice of modes and the input channels recorded on the disc.

When a digital source is playing, a **Bitstream Indicator A** will light to show which type of signal is playing:

DOLBY D: When the DOLBY D indicator lights, a Dolby Digital bitstream is being received. Depending on the audio track selected on the source player and number of channels on the disc, different surround modes are possible. Note that only one channel without subwoofer, called "1.0" audio, or all five channels with subwoofer ("5.1" audio) or all steps between can be recorded on digitally surround encoded audio tracks (see NOTE below). With all those tracks, except "2.0" audio, only the Dolby Digital and VMAx modes are available. When the Dolby Digital signal is only two channel ("2.0") these two channels (l and r) often contain Pro Logic surround informations. With those tracks the AVR5000 automatically switches to the Pro Logic mode, but you may also select the Vmax mode.

DTS: When the DTS indicator lights, a DTS bitstream is being received. When the unit senses this type of data, only the DTS mode may be used.

PCM: When the PCM indicator lights, a standard Pulse Code Modulation, or PCM, signal is being received. This is the type of digital audio used by conventional compact disc and laser disc recordings. When a PCM bitstream is present, all modes except Dolby Digital and DTS are available. Note that the PCM signal format can be selected on the DVD player with any audio track, even with Dolby Digital tracks (but not with Dolby Digital decoding). So, if selected, even "2.0" D.D. audio tracks

Operation

can be played with all surround modes, also with the most effective Logic 7.

HDCD[®]: When this indicator lights in conjunction with the PCM indicator, the CD that is playing is encoded using the special High Definition Compatible Digital[®] process. HDCD[®] discs use 20-bit encoding and other proprietary processing to provide the ultimate in CD listening. Note that HDCD processing is only available in the Stereo or Surround Off mode.

MP3: When the MP3 indicator lights, a compatible MPEG 1/Layer 3 digital signal is being received. This is the popular audio format used by many computer programs for recording compressed audio files. When an MP3 bitstream is present, the sound will automatically be played in the stereo (surround off) mode. The surround modes are not available during MP3 playback.

In addition to the **Bitstream Indicators**, the AVR5000 features a set of unique channel input indicators that tell you how many channels of digital information are being received and if the digital signal is interrupted.

These indicators are the L/C/R/LS/RS/LFE letters that are inside the center boxes of the **Speaker/Channel Input Indicators** **Q** in the front panel **Main Information Display** **25**. When a standard analog stereo or matrix surround signal is in use, only the "L" and "R" indicators will light, as analog signals have only left and right channels, respectively, even surround recordings, carry surround information on the left and right channels only.

Digital signals, however, may have one to six separate channels, depending on the program material, the method of transmission and the way in which it was encoded. When a digital signal is playing, the letters in these indicators will light in response to the specific signal being received. It is important to note that although Dolby Digital, for example, is referred to as a "5.1" system, not all Dolby Digital DVD or audio tracks selected on DVD or other Dolby Digital programs are encoded for 5.1. Thus, it is sometimes normal for a DVD with a Dolby Digital soundtrack to trigger e.g. only the "L" and "R" indicators.

NOTE: Many DVD discs are recorded with both "5.1" and "2.0" versions of the same soundtrack, the "2.0" version often is used with other languages. When playing a DVD, always be certain to check the type of material on the disc. Most discs show this information in the form of a listing or icon on the back of the disc jacket. When a disc does offer multiple soundtrack choices you may have to make some adjustments to your DVD player (usually with the "Audio

Select" button or in a menu screen on the disc) to send a full 5.1 feed to the AVR5000 or to select the appropriate audio track and thus language ("2.0" audio tracks can be played with all surround modes, even with Logic 7, see indicator "PCM" on page 30). It is also possible for the type of signal feed to change during the course of a DVD playback. In some cases the previews of special material will only be recorded in 2.0 audio, while the main feature is available in 5.1 audio. As long as your DVD player is set for 6-channel output, the AVR5000 will automatically sense changes to the bitstream and channel count and reflect them in these indicators.

The letters used by the **Speaker/Channel Input Indicators** **Q** also flash to indicate when a bitstream has been interrupted. This will happen when a digital input source is selected before the playback starts, or when a digital source such as a DVD is put into a Pause mode. The flashing indicators remind you that the playback has stopped due to the absence of a digital signal and not through any fault of the AVR. This is normal, and the digital playback will resume once the playback is started again.

Night Mode

A special feature of Dolby Digital is the Night mode, which enables Dolby Digital input sources to be played back with full digital intelligibility while reducing the maximum peak level and lifting the low levels by 1/4 to 1/3. This prevents abruptly loud transitions from disturbing others without reducing the impact of the digital source. The Night mode is available only when Dolby Digital mode is selected.

The Night mode may be engaged when a Dolby Digital DVD is playing by pressing the **Night** Button **12** on the remote. Next, press the **▲/▼** buttons **14** to select either the middle range or full compression versions of the Night mode. To turn the Night mode off, press the **▲/▼** buttons **14** until the message in the lower third of the video display and the **Main Information Display** **Y** reads **D - RANGE OFF**. When the Night mode is active, the **Night Mode Indicator** **Q** will also illuminate.

The Night mode may also be selected to always be on at either level of compression using the options in the Surround Setup Menu. See page 24 for information on using the menus to set this option.

IMPORTANT NOTES ON DIGITAL PLAYBACK:

1. When the digital playback source is stopped, or in a pause, fast forward or chapter search mode, the digital audio data will momentarily stop, and the channel position letters inside the **Speaker/Channel Indicators** **Q** will flash. This is normal and does not indicate a problem

with either the AVR5000 or the source machine. The AVR5000 will return to digital playback as soon as the data is available and when the machine is in a standard play mode.

2. Although the AVR5000 will decode virtually all DVD movies, CDs and HDTV sources, it is possible that some future digital sources may not be compatible with the AVR5000.

3. Note that not all digitally encoded programs and not all audio tracks on a DVD contain full 5.1-channel audio. Consult the program guide that accompanies the DVD or laser disc to determine which type of audio has been recorded on the disc. The AVR5000 will automatically sense the type of digital surround encoding used, indicate it in the **Bitstream Indicators** **A** and **Channel Input Indicators** **Q** and adjust to accommodate it.

4. When a Dolby Digital or DTS source is playing, you normally may not be able to select some of the analog surround modes such as Dolby Pro Logic, Dolby 3, Stereo, Hall, Theater, 5CH Stereo or Logic 7, except with special audio tracks (see indication "Dolby Digital" on previous page) or data format selected (see "PCM" on previous page).

5. When a Dolby Digital or DTS source is playing, it is not possible to make an analog recording using the **Tape** **2** or **Video 1** or **Video 2** or **5/33** record outputs, if the source is connected to any digital input of the AVR5000 only. But the analog two channel signal of that source, the "Downmix" to Stereo or Dolby Surround, can be recorded by connecting its analog audio outputs to the appropriate analog inputs (e.g. DVD) of the AVR5000, even if the digital input of the AVR5000 remains selected. Additionally, the digital signals will be passed through to the **Digital Audio Outputs** **30**.

Tape Recording

In normal operation, the audio or video source selected for listening through the AVR5000 is sent to the record outputs. This means that any program you are watching or listening to may be recorded simply by placing machines connected to the outputs for **Tape Outputs** **2** or **Video 1** or **2 Outputs** **5/23/25** in the record mode.

When a digital audio recorder is connected to any of the **Digital Audio Outputs** **30**, you are able to record the digital signal using a CD-R, MiniDisc or other digital recording system. Note that all digital signals will be passed through to both, coaxial and optical, digital outputs simultaneously, no matter which kind of digital input was selected.

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Operation

In addition to the rear panel digital outputs, the AVR 5000 offers Harman Kardon's exclusive configurable front panel output jack feature. For easy connection of portable devices, you may switch the front panel **Digital Coax** jack **15** or the **Video 4** jack **16** from an input to an output by following these steps:

1. Press the **OSD** button **22** to view the **MASTER MENU** (Figure 1).
2. Press the **Set** button **16** to enter the **IN/OUT SETUP** menu (Figure 2).
3. Press the **▼** button **14** so that the on-screen **►** cursor is next to **VIDEO 4** or **COAXIAL 3** depending on which input you wish to change to an output. Either input, or both may be changed at any time.
4. Press either of the **◀▶** buttons **15/31** so that the word **OUT** is highlighted.
5. Press the **OSD** button **22** to exit the menus and return to normal operation.

Note that once the setting is made, the appropriate **Input/Output Status Indicator 14** will turn red, indicating that the selected analog or digital jacks are now an output, instead of in the default setting as an input. Once changed to an output, the setting will remain as long as the AVR 5000 is turned on, unless the setting is changed in the OSD menu system, as described above. Note, however, that once the AVR 5000 is turned off, the setting is cancelled. When the unit is turned on again, the front panel jacks will return to their normal default setting as an input. If you wish to use their jacks as an output at a future time, the setting must be changed again using the OSD menu system, as described above.

NOTES:

- The digital outputs are active only when a digital signal is present, and they do not convert an analog input to a digital signal, or change the format of the digital signal (e.g. Dolby Digital to PCM or vice versa, but coaxial digital signals are converted to optical signals and vice versa). In addition, the digital recorder must be compatible with the output signal. For example, the PCM digital input from a CD player may be recorded on a CD-R or MiniDisc, but Dolby Digital or DTS signals may not.
- To make an analog recording of a Dolby Digital or DTS source is not possible, if the source is connected to a digital input of the AVR5000 only. But the analog two channel signal of that source can be recorded (see item 5, "Important Notes on Digital Playback" above).

Output Level Trim Adjustment

Normal output level adjustment for the AVR5000 is established using the test tone, as outlined on pages 24 and 25. In some cases, however, it may be desirable to adjust the output levels using program material such as a test disc, or a selection you are familiar with. Additionally, the output level for the subwoofer and those for the Stereo and VMax modes can only be adjusted using this procedure.

To adjust the output levels using program material, first select the surround mode for which you want to trim the speakers (see NOTE below), start your program material source and set the reference volume for the front left and front right channels using the **Volume Control 20/34 1**.

Once the reference level has been set, press the **Channel Select** button **13/26** and note that **FRONT L LEV** will appear in the **Main Information Display Y**. To change the level, first press the **Set** button **16/21**, and then use the **Selector** buttons **5** or the **▲/▼** buttons **14** to raise or lower the level. DO NOT use the volume control, as this will alter the reference setting.

Once the change has been made, press the **Set** button **16/21** and then press the **Selector** buttons **5** or the **▲/▼** buttons **14** to select the next output channel location that you wish to adjust. To adjust the subwoofer level, press the **Selector** buttons **5** or the **▲/▼** buttons **14** until **SUBWOOFER LEV** appears in the **Main Information Display Y** or on-screen display. (only available if the subwoofer is turned on).

Press the **Set** button **16/21** when the name of the desired channel appears in the **Main Information Display Y** and on-screen display, and follow the instructions shown above to adjust the level.

Repeat the procedure as needed until all channels requiring adjustment have been set. When all adjustments have been made press the **Set** button **16/21** twice, the AVR5000 will return to normal operation.

If you are using a disc with noise test signals or an external signal generator as the source from which to trim the output levels, you may use the EzSet feature of the remote to guide you to the correct SPL level. To use the remote for this purpose, start the test tone from the source and press **and quickly release** the **SPL Indicator Select 36** to activate the sensor. When the test tone from the source is fed to the speaker you want to trim, the **Program Indicator 3** will change color to indicate the level. Adjust the level for the appropriate channel until the LED lights green for all channels. When it is red the

level is too high; when it is amber the level is too low. As the remote is used as sound pressure level (SPL) sensor, in this case the channels can be selected and their levels be adjusted, as described above, with the **Channel Select** button **26** and the **Selector 5** and **Set** buttons **21** on the AVR's front panel only (with help of an assisting person). After the output levels of all channels are aligned, press the **SPL Indicator Select 36** to turn the sensor and indicator off.

The channel output may also be adjusted using the full-OSD on-screen menu system. First, set the volume to a comfortable listening level using the **Volume Control 20/34 1**. Then, press the **OSD** button **22** to bring up the **MASTER MENU** (Figure 1). Press the **▼** Button **14** until the on-screen **►** cursor is next to the **CHANNEL ADJUST** line. Press the **Set** Button **16** to activate the **CHANNEL ADJUST** menu (Figure 8).

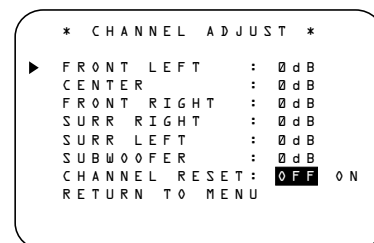


Figure 8

Once the menu appears on your video screen, use the **▲/▼** buttons **14** to move the on-screen **►** cursor so that it is next to the channel that you wish to adjust. Then, use the **◀▶** buttons **15/31** to raise or lower the output level.

When all adjustments are done, press the **▲/▼** buttons **14** to move the on-screen **►** cursor so that it is next to **RETURN TO MENU** and then press the **Set** Button **16** if you wish to go back to the main menu to make other adjustments. If you have no other adjustments to make, press the **OSD** button **22** to exit the menu system.

NOTE: The output levels may be separately trimmed for each digital and analog surround mode. If you wish to have different trim levels for a specific mode, select that mode and then follow the instructions in the steps shown above.

Changing the levels by the trim adjustment as described above will automatically change the level settings in the Output Adjust Menu (Fig. 7, page 25) correspondingly (and vice versa). With Stereo and Vmax modes the adjustment procedure described above is the only way to trim the output level (e.g. to match the Vmax level with other modes).

Operation

6-Channel Direct Input

The AVR5000 is equipped for future expansion through the use of optional, external adapters for formats that the AVR5000 may not be capable of processing. When an adapter is connected to the **6-Channel Direct Input** ⑨, you may select it by pressing the **6-Ch Direct Input Selector** ③⑦. The 6-Channel Direct Input may also be selected by pressing the **Input Source Selector** button ⑪ on the front panel until the words **6 CH DIRECT** appear in the **Main Information Display** ⑪, and a green LED lights next to **6 CH** in the **Input Indicators** ②②.

Note that when the 6-Channel Direct Input is in use, you may not select a surround mode, as the external decoder determines processing. In addition, there is no signal at the record outputs when the 6-Channel Direct Input is in use, and the **Tone** ⑪⑨ and **Balance** ⑪⑧ controls will not be effective.

Memory Backup

This product is equipped with a memory backup system that preserves tuner presets and system configuration information if the unit is turned off completely, accidentally unplugged or subjected to a power outage. This memory will last for approximately two weeks, after which time all information must be reentered.

Tuner Operation

The AVR5000's tuner is capable of tuning AM, FM and FM Stereo broadcast stations and receiving RDS data. Stations may be tuned manually, or they may be stored as favorite station presets and recalled from a 30 position memory.

Station Selection

1. Press the **AM/FM Tuner Select** button ⑦ on the remote to select the tuner as an input. The tuner may be selected from the front panel by either pressing the **Input Source Selector** ⑪ until the tuner is active or by pressing the **Tuner Band Selector** ⑨ at any time.
2. Press the **AM/FM Tuner Select** button ⑦ or **Tuner Band Selector** ⑨ again to switch between AM and FM so that the desired frequency band is selected.
3. Press the **Tuner Mode** button ⑪⑨ on the remote or hold the **Band Selector** ⑨ on the front panel pressed for 3 seconds to select manual or automatic tuning.

When the **AUTO** indicator ① is illuminated in the Main Information Display the tuner will only stop at those stations that have a strong enough signal to be received with acceptable quality.

When the **AUTO** indicator ① is not illuminated, the tuner is in a manual mode and will stop at each frequency increment in the selected band.

4. To select stations press any **Tuning** button ⑧ ②①. When the **AUTO** indicator ① is illuminated, press the button to cause the tuner to search for the next highest or lowest frequency station that has an acceptable signal or hold the button pressed to tune more quickly and release it to start the auto search. In the Auto mode the tuner will play each station in stereo or mono mode, just as the program is transmitted. If the **AUTO** indicator ① is not illuminated, tap the **Tuning** button ⑧ ②① to advance one frequency increment at a time, or press and hold it to locate a specific station. When the **TUNED** indicator ① illuminates, the station is properly tuned and should be heard with clarity.

5. Stations may also be tuned directly by pressing the **Direct** button ②①, and then pressing the **Numeric Keys** ⑪⑧ that correspond to the station's frequency. The desired station will automatically be tuned after the latest number is entered. If you press an incorrect button while entering a direct frequency, press the **Clear** button ②③ to start over.

NOTE: When the FM reception of a stereo station is weak, audio quality will be increased by switching to Mono mode by pressing the **Tuner Mode** button ⑪⑨ on the remote or holding the **Band Selector** ⑨ on the front panel pressed for 3 seconds until the **STEREO** indicator ① goes out.

Preset Tuning

Using the remote, up to 30 stations may be stored in the AVR5000's memory for easy recall using the front panel controls or the remote.

To enter a station into the memory, first tune the station using the steps outlined above. Then:

1. Press the **Memory** button ②⑨ on the remote. Note that **MEMORY** indicator ① will illuminate and flash in the **Main Information Display** ②⑤.
2. Within five seconds, press the **Numeric Keys** ⑪⑧ corresponding to the location where you wish to store this station's frequency. Once entered, the preset number will appear in the **Preset Number/Sleep Time Display** ②⑥.
3. Repeat the process after tuning any additional stations to be preset.

Recalling Preset Stations

- To manually select a station previously entered in the preset memory, press the **Numeric Keys** ⑪⑧ that correspond to the desired station's memory location.
- To manually tune through the list of stored preset stations one by one, press the **Preset Stations Selector** buttons ⑪⑩ ②⑦ on the front panel or remote.

Operation

RDS Operation

The AVR5000 is equipped with RDS (Radio Data System), which brings a wide range of information to FM radio. Now in use in many countries, RDS is a system for transmitting station call signs or network information, a description of station program type, text messages about the station or specifics of a musical selection, and the correct time.

As more FM stations become equipped with RDS capabilities, the AVR5000 will serve as an easy-to-use center for both information and entertainment. This section will help you take maximum advantage of the RDS system.

RDS Tuning

When an FM station is tuned in and it contains RDS data, the **RDS Indicator AE** will illuminate and the AVR5000 will automatically display the station's call sign or other program service in the **Main Information Display Y**.

RDS Display Options

The RDS system is capable of transmitting a wide variety of information in addition to the initial station call sign that appears when a station is first tuned. In normal RDS operation the display will indicate the station name, broadcast network or call letters. Pressing the **RDS** button **12 26** enables you to cycle through the various data types in the following sequence:

- The station's call letters (with some private stations other information too).
- The station's frequency.
- The Program Type (PTY) as shown in the list below. The **PTY Indicator AD** will illuminate when this data is being received.
- A "text" message (Radiotext, RT) containing special information from the broadcast station. Note that this message may scroll across the display to permit messages longer than the eight positions in the display. Depending on signal quality, it may take up to 30 seconds for the text message to appear; in that time, the word **TEXT** will flash in the Information Display when RT is selected. The **RT Indicator AB** will illuminate when text data is being received and ready to be displayed.

- The current time of day (CT). Note that it may take up to two minutes for the time to appear, in that time the word **TIME** will flash in the information display when CT is selected. The **CT Indicator AC** will illuminate when time data is being received. Please note that the accuracy of the time data is dependent on the radio station, not the AVR5000.

Some RDS stations may not include some of these additional features. If the data required for the selected mode is not being transmitted, the **Main Information Display Y** will show a **NO TYPE, NO TEXT** or **NO TIME** message after the individual time out.

In any FM mode the RDS function requires a strong enough signal for proper operation. If you receive a partial message, or any of the **RDS, PTY, CT** or **RT Indicators AE AD AC AB** going on and off, try slowly adjusting the antenna or tune to another stronger RDS station.

Program Search (PTY)

An important feature of RDS is its capability of encoding broadcasts with Program Type (PTY) codes that indicate the type of material being broadcast. The following list shows the abbreviations used to indicate each PTY, along with an explanation of the PTY:

- **(RDS ONLY)**
- **(TRAFFIC)**
- **NEWS:** News
- **AFFAIRS:** Current Affairs
- **INFO:** Information
- **SPORT:** Sports
- **EDUCATE:** Educational
- **DRAMA:** Drama
- **CULTURE:** Culture
- **SCIENCE:** Science
- **VARIED:** Varied Speech Programs
- **POPM:** Popular Music
- **ROCKM:** Rock Music
- **M-O-R-M-:** Middle-of-the-Road Music
- **LIGHTM:** Classical Music
- **CLASSICS:** Serious Classical Music
- **OTHERM:** Other Music
- **WEATHER:** Weather Information
- **FINANCE:** Financial Programs
- **CHILDREN:** Children's Programs
- **SOCIAL A:** Social Affairs Programs
- **RELIGION:** Religious Broadcasts
- **PHONE IN:** Phone-In Programs
- **TRAVEL:** Travel and Touring
- **LEISURE:** Leisure and Hobby

Operation

- **JAZZ**: Jazz Music
- **COUNTRY**: Country Music
- **NATIONAL**: National Music
- **OLDIES**: Oldies Music
- **FOLK M**: Folk Music
- **DOCUMENT**: Documentary Programs
- **TEST**: Emergency Test
- **ALARM**: Emergency Broadcast Information

You may search for a specific Program Type (PTY) by following these steps:

1. Press the **RDS** button **12 26** until the current PTY is shown in the **Main Information Display Y**.

2. While the PTY is shown, press the **Preset Up/Down** button **10 27** or hold them pressed to scroll through the list of available PTY types, as shown above. To simply search for the next station transmitting any RDS data, use the **Preset Up/Down** button **10 27** until **RDS ONLY** appears in the display.

3. Press any of the **Tuning Up/Down** buttons **8 21**, the tuner begins to scan the FM band upwards or downwards for the first station that has RDS data that matches the desired selection, and acceptable signal strength for quality reception.

4. While the **PTY Indicator AD** flashes in the display, the tuner will make up to one complete scan of the entire FM band for the next station that matches the desired PTY type and has acceptable reception quality. If no such station is found, the display will read **NONE** for some seconds and the tuner will return to the last FM station in use before the search.

NOTE: Many stations do not transmit a specific PTY. The display will show **NONE**, when such a station is selected and PTY is active.

NOTE: Some stations transmit constant traffic information. To identify as traffic station, they transmit a specific traffic code constantly, which causes the **TA Indicator AA** to light in the display. These stations can be found by selecting **TRAFFIC**, the option in front of **NEWS** in the list. The AVR5000 RDS will find the appropriate station, even if it is not broadcasting traffic information when the search is made.

Advanced Features

The AVR5000 is equipped with a number of advanced features that add extra flexibility to the unit's operation. While it is not necessary to use these features to operate the unit, they provide additional options that you may wish to use.

Display Brightness

The AVR5000's front panel **Main Information Display** 25 is set at a default brightness level that is sufficient for viewing in a normally lit room. However, in some home theater installations, you may wish to occasionally lower the brightness of the display, or turn it off completely.

To change the display brightness setting for a specific listening session, you will need to make an adjustment in the **ADVANCED SELECT** menu. To start the adjustment, press the **OSD** button 22 to bring the **MAS-TER MENU** to the screen. Press the **▲** Button 14 twice, until the on-screen ► cursor is next to the **ADVANCED** line. Press the **Set** Button 16 to enter the **ADVANCED SELECT** menu (Figure 9).

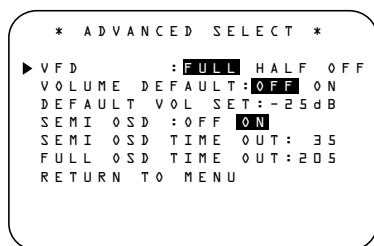


Figure 9

To change the brightness setting, at the **ADVANCED SELECT** menu, make certain that the on-screen ► cursor is next to the **VFD** line, and press the ► Button 31 until the desired brightness level is highlighted in the video display. When **FULL** is highlighted, the display is at its normal brightness. When **HALF** is highlighted, the display is at half the normal brightness level. When **OFF** is highlighted, all of the indicators in the **Main Information Display** 25 will go dark. Note, however, that the green LEDs for the **Input Indicators** 22 and the **Surround Mode Indicators** 29, as well as for the **Power Indicator** 3, will always remain lit to remind you that the unit is turned on.

If you wish to make other adjustments in the menu, press the **▲/▼** Buttons 14 until the on-screen ► cursor is next to the desired setting or the **RETURN TO MENU** line and press the **Set** button 16. If you have no other adjustments to make, press the **OSD** Button 22 to exit the menu system.

The display brightness may also be changed by pressing and holding the **Set** button 21 on the front for three seconds until the message in the **Main Information Display** Y reads **VFD FULL**. Within five seconds, press the front panel **Selector** buttons 5 until the desired brightness display level is shown. At that point, press the **Set** button 21 again to enter the setting.

Once the desired brightness level is selected, it will remain in effect until it is changed again or until the unit is turned off.

Turn On Volume Level

As is the case with most audio/video receivers, when the AVR5000 is turned on, it will always return to the volume setting in effect when the unit was turned off. However, you may prefer to always have the AVR5000 turn on at a specific setting, regardless of what was last in use when the unit was turned off. To change the default condition so that the same volume level is always used at turn-on, you will need to make an adjustment in the **ADVANCED SELECT** menu. To start the adjustment, press the **OSD** button 22 to bring the **MAS-TER MENU** (Figure 1) to the screen. Press the **▲** button 14 twice, until the on-screen ► cursor is next to the **ADVANCED** line. Press the **Set** button 16 to enter the

ADVANCED SELECT menu (Figure 9).

At the **ADVANCED SELECT** menu make certain that the on-screen ► cursor is next to the volume default line by pressing the **▲/▼** buttons 14 as needed. Next, press the ► button 31 so that the word **ON** is highlighted in the video display. Next, press the ▼ button 14 once so that the on-screen ► cursor is next to the **DEFAULT VOL SET** line. To set the desired turn-on volume, press the **◀▶** buttons 15 31 or hold them pressed until the desired volume level is shown on the **DEFAULT VOL SET** line. Note that this setting may NOT be made with the regular volume controls.

NOTE: Since the setting for the turn-on volume cannot be heard while the setting is being made, you may wish to determine the setting before making the adjustment. To do this, listen to any source and adjust the volume to the desired level using the regular volume controls 20 34 1. When the desired volume level to be used at turn-on is reached, make a note of the setting as it appears in the lower third of the video screen or in the **Main Information Display** Y (a typical volume level will appear as a negative number such as -25dB). When making the adjustment, use the **◀▶** buttons 15 31 to enter this setting.

Unlike some of the other adjustments in this menu, the turn-on volume default will remain in effect until it is changed or turned off in this menu, even when the unit is turned off completely.

If you wish to make other adjustments in the menu, press the **▲/▼** Buttons 14 until the on-screen ► cursor is next to the desired setting or the **RETURN TO MENU** line and press the **Set** button 16. If you have no other adjustments to make, press the **OSD** Button 22 to exit the menu system.

Advanced Features

Semi-OSD Settings

The semi-OSD system places one line messages at the lower third of the video display screen whenever the Volume, Input Source, Surround mode or tuner frequency of any of the configuration settings are changed. The semi-OSD system is helpful in that enables you to have feedback on any control changes or remote commands using the video display when it is difficult to view the front-panel displays. However, you may occasionally prefer to turn these displays off for a particular listening session. You may also want to adjust the length of time the displays remain on the screen. Both of those options are possible with the AVR5000.

To turn off the semi-OSD system, you will need to make an adjustment in the **ADVANCED SELECT** menu (Figure 9). To start the adjustment, press the **OSD** button **(22)** to bring the **MASTER MENU** to the screen. Press the **▲** Button **(14)** twice, until the on-screen **▼** cursor is next to the **ADVANCED** line. Press the **Set** Button **(16)** to enter the **ADVANCED SELECT** menu.

At the **ADVANCED SELECT** menu make certain that the on-screen **►** cursor is next to the **SEMI OSD** line by pressing the **▲/▼** buttons **(14)** as needed. Next, press the **►** button **(31)** so that the word **OFF** is highlighted in the video display.

Note that this setting is temporary and will remain active only until it is changed or until the AVR5000 is turned off. Once the unit is turned off, the semi-OSD displays will remain activated, even if they were switched off for the previous listening session.

To change the length of time that the semi-OSD displays remain on the screen, go to the **ADVANCED SELECT** Menu as outlined earlier, and press the **▲/▼** buttons **(14)** as needed, until the on-screen **►** cursor is next to the **SEMI - OSD TIME OUT** line. Next, press the **◀▶** Buttons **(15/31)** until the desired time in seconds is displayed. Note that unlike most of the other options in this menu, this is a permanent setting change, and the time-out entry will remain in effect until it is changed, even when the unit is turned off.

If you wish to make other adjustments in the menu, press the **▲/▼** Buttons **(14)** until the on-screen **►** cursor is next to the desired setting or the **RETURN TO MENU** line and press the **Set** button **(16)**. If you have no other adjustments to make, press the **OSD** Button **(22)** to exit the menu system.

Full-OSD Time Out Adjustment

The **FULL - OSD** menu system is used to simplify the setup and adjustment of the AVR5000 using a series of on-screen menus. The factory default setting for these menus leaves them on the screen for 20 seconds after a period of inactivity before they disappear from the screen or Time Out. This Time Out is a safety measure to prevent the menu text from burning into the CRTs in your monitor or projector, which might happen if they were left on indefinitely. However, some viewers may prefer a slightly longer or shorter period before the Time Out display.

To change the Full-OSD Time Out, you will need to make an adjustment in the **ADVANCED SELECT** Menu (Figure 1). To start the adjustment, press the **OSD** button **(22)** to bring the **MASTER MENU** to the screen. Press the **▲** button **(14)** twice, until the on-screen **▼** cursor is next to the **ADVANCED** line. Press the **Set** Button **(16)** to enter the **ADVANCED SELECT** Menu (Figure 9).

At the **ADVANCED SELECT** menu make certain that the on-screen **►** cursor is next to the **FULL - OSD TIME OUT** line by pressing the **▲/▼** Buttons **(14)** as needed. Next, press the **◀▶** buttons **(15/31)** until the desired time is displayed in seconds. Note that unlike most of the other options in this menu, this is a permanent setting change, and the time-out entry will remain in effect until it is changed, even when the unit is turned off.

If you wish to make other adjustments in the menu, press the **▲/▼** Buttons **(14)** until the on-screen **►** cursor is next to the desired setting or the **RETURN TO MENU** line and press the **Set** button **(16)**. If you have no other adjustments to make, press the **OSD** Button **(22)** to exit the menu system.

Multiroom Operation

The AVR5000 is fully equipped to operate as the control center for a multiroom system with optional remote external Infrared (IR) sensors, speakers and power amplifiers. Although some multi-room installations will require the services of a specially trained installer, it is possible for the average do-it-yourself hobbyist to install a simple remote room system.

Installation

The key to remote room operation is to link the remote room to the AVR5000's location with wire for an infrared receiver and speakers or an amplifier. For complete installation instructions for Multiroom use, see page 18.

Multiroom Setup

Once the audio and IR link connections have been made, the AVR5000 needs to be configured for multiroom operation using the steps below. Press the **OSD** button **22** to bring the **MASTER MENU** (Figure 1) to the screen. Press the **▲/▼** button **14**, until the on-screen ► cursor is next to the **MULTI - ROOM** line. Press the **Set** button **16** to enter the **MULTI - ROOM SETUP** menu (Figure 10).

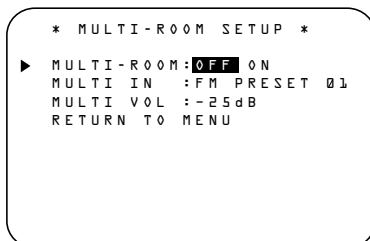


Figure 10

When the **MULTI - ROOM SETUP** menu appears, the on-screen ► cursor will be at the **MULTI - ROOM** line. Since this line is used to turn the system on and off, do not make an adjustment here unless you wish to turn the system on at this time. To turn the system on, press the ► button **15 31** so that **ON** is highlighted. If you do not wish to turn the system on at this time or to proceed to the next step, press the ▼ Button **14** once so that the ► on-screen cursor is next to the **MULTI IN** line.

At the **MULTI IN** line, press the **◀▶** buttons **15 31** until the desired Audio/Video input to the multi-room system appears in the high-lighted video. When the selection has been made, press the ▼ button **14** once so that the ► on-screen cursor is next to the **MULTI VOL** line.

At the **MULTI VOL** line, press the **◀▶** buttons **15 31** or hold them pressed until the desired volume level for the multi-room system is entered. DO NOT use the regular volume control knobs for this setting. When all settings for the multiroom setup have been made, press the ▼ buttons **14** once so that the on-screen ► cursor is next to the **RETURN TO MENU** line and press the **Set** button **16**. If you have no other adjustments to make, press the **OSD** button **22** to exit the menu system.

Multiroom Operation

When operating the AVR5000 from a remote room location where an IR sensor link has been connected to the AVR5000's rear panel **Multiroom IR Input 21**, you may use either the Main remote control or the Zone II remote. To turn on the multiroom feed, press any of the **Input Selector** buttons on the Zone II remote **B C D** or the Main remote **5 6 7**. Press the **AVR Selector 6 B** to turn the unit on to the last source, or any of the other **Selector** buttons to turn on to a specific source.

As long as an IR feed to the AVR5000 has been established from the remote room, using any of the buttons on either remote will control the remote location volume **34 1**, change the tuner frequency **21 E**, change the tuner preset **27 G** or mute the output **38 ●**.

If the **Remote IR Output jack 21** on the AVR5000 is connected to an IR Input jack on compatible Harman Kardon audio components such as CD, DVD or cassette players, the transport functions of those machines may also be controlled using the **Transport Controls 24 E F G H J** on either remote control.

To turn the system off from the remote room, press the **Power-Off** button **4 A**. Remember that the AVR5000 may be turned on or off from the remote room regardless of the system's operation or status in the main room.

NOTE: When the tuner is selected as the source for the remote zone, any change to the frequency or preset will also change the station being listened to in the main room, if the tuner is in use there. Similarly, if someone in the main room changes the station, the change will also impact the remote room.

To activate the feed to the remote room, press the **Multiroom** button **33** on the remote. Next, press the **Set** button **16**. Press the **▲/▼** buttons **14** to turn the multiroom feed on or off. When the multiroom system is on, the **Multi** indicator **P** will light in the **Main Information Display 25**, and the **Main Information Display Y** or OSD will display **MULTI ON**. Press the **Set** button twice **16** to enter the setting.

When the multiroom system is turned on, the input selected using the Multiroom Menu will be fed to the **Multiroom Output** jacks **10** on the rear panel. The volume will be as set in the same menu, although it may also be adjusted using an optional IR sensor and the Zone II remote in the remote location or on the optional audio power amplifier connected to the **Multiroom Output** jacks **10**.

Once the multiroom system is turned on, it will remain on even if the AVR5000 is placed in the Standby mode in the main room by pressing the **Power Off Button 4** or the **System Power Control 2** on the front panel. To turn off the multiroom system from the main listening room, even when the AVR is in Standby mode, press the **Multiroom** button **33** and then the **Set** button **16**. Press the **▲/▼** buttons **14** so that the **Multi** indicator **P** in the **Main Information Display 25** goes out, and the **Main Information Display Y** or OSD will display **MULTI OFF**.

Even when the AVR is turned off (to Standby mode) and the Multiroom system is turned off too, the multiroom system may be turned on at any time from any room by pressing any of the **Selector** buttons **5 6 7 B C D** on the remote in the remote room.

Programming the Remote

The AVR5000 is equipped with a powerful remote control that will control not only the receiver's functions, but also most popular brands of audio and video equipment, including CD players, TV sets, cable boxes, VCRs, satellite receivers and other home-theater equipment. Once the AVR5000's remote is programmed with the codes for the products you own, it is possible to eliminate most other remotes and replace them with the convenience of a single universal remote control.

Programming the Remote with Codes

As shipped from the factory, the remote is fully programmed for all AVR5000 functions, as well as those of most Harman Kardon CD changers, DVD players, CD players and cassette decks. In addition, by following one of the methods below, you may program the remote to operate a wide range of devices from other manufacturers.

Note: The **Input Selector** button **Video 4 5** cannot be programmed with codes as it functions as input selector for the AVR only. Moreover, only the default code "001" can be programmed on the **AVR Selector** button **6**.

Direct Code Entry

This method is the easiest way to program your remote to work with different products.

1. Use the tables in the following pages to determine the three-digit code or codes that match both the product type (e.g., VCR, TV), and the specific brand name. If there is more than one number for a brand, make note of the different choices.

2. Turn on the unit you wish to program into the AVR5000 remote.

3. Press and hold both the **Input Selector 5** for the type of product to be entered (e.g., VCR, TV) and the **Mute** button **38** at the same time. When the **Program/SPL Indicator 3** turns amber and begins flashing, release the buttons. It is important that you begin the next step within 20 seconds.

4. If the unit you wish to program into the AVR5000 remote has a remotable Power on/off function, follow these steps:

a. Point the AVR5000's remote towards the unit to be programmed, and enter the first three-digit code number using the **Numeric** buttons **18**. If the unit being programmed turns off, the correct code has been entered. Press the **Input Selector 5** again, and note that the red light under the **Input Selector** will flash three times before going dark to confirm the entry.

b. If the product to be programmed does NOT turn off, continue to enter the three-digit code numbers until the equipment turns off. At this point, the correct code has been entered. Press the **Input Selector 5** again and note that the red light under the **Input Selector** will flash three times before going dark to confirm the entry.

5. If the Power function of the unit to be programmed cannot be remoted, follow these steps (max. 20 seconds after step 3 above, or else step 3 must be repeated first):

a. Enter the first three-digit code number using the **Numeric** buttons **18** and press the **Input Selector 5** again. Press the remote button of any transport function remotable with the unit, e.g. **Pause** or **Play** button **24**. If the unit being programmed starts that function, the correct code has been entered.

b. If the unit does not start the function whose button was pressed, repeat steps 3 and 5a above with the next three-digit code number listed in the setup code table for that brand and product type, until the unit reacts properly on the transport function transmitted.

6. Try all of the functions on the remote to make certain that the product operates properly. Keep in mind that many manufacturers use a number of different combinations of codes, so it is a good idea to make certain that not only does the Power control work, but that the volume, channel and transport controls work as they should. If functions do not work properly, you may need to use a different remote code.

7. If the unit does not react to any code entered, if the code for your product does not appear in the tables in this manual, or if not all functions operate properly, try programming the remote with the Auto Search Method.

Note on Using the AVR5000 remote with a Harman Kardon CD Recorder.

As shipped from the factory the remote is programmed for controlling Harman Kardon CD players. But it is able to control most functions of the CD Recorder CDR2 and CDR20 (see function list on page 44) too after the code "002" is entered to the **CD Selector** button **3** as described above. For returning to the CD player control commands the code "001" must be entered.

Auto-Search Method

If the unit you wish to include in the AVR5000's remote is not listed in the code tables in this manual or if the code does not seem to operate properly, you may wish to program the correct code using the Auto Search method that follows. Note that the Auto Search method works only

with units whose Power functions can be remoted:

1. Turn on the product that you wish to include in the AVR5000 remote.

2. Press and hold both the **Input Selector 5** for the type of product to be entered (e.g., VCR, TV) and the **Mute** button **38** at the same time. When the **Program/SPL Indicator 3** turns amber and begins flashing, release the buttons. It is important that you begin the next step within 20 seconds.

3. To find out if the code for your unit is pre-programmed, point the AVR5000 remote towards the unit to be programmed, and press and hold the **▲** button **14**. This will send out a series of codes from the remote's built-in data base, with each flash of the red light under the **Input Selector 5** indicating that a code has been sent. When the device to be programmed turns off, immediately release the **▲** button **14**. Note that it may take one minute or more until the right code is found and the unit turns off.

4. When the **▲** button was not released in time after the unit turned off, the proper code will be "overrun". That's why a function test should be made: Turn the unit on again and, while the **Input Selector 5** still lights red, press the **▲** button **14** once, then the **▼** button **14** once too. When the unit turns off, the right code was found, when not, the code was "overrun". To re-find the correct, while the **Input Selector 5** still lights red, press (not hold pressed) the **▼** button **14** repeatedly to step backwards through the codes available and observe the reaction of the unit at each press. As soon as the unit turns off the correct code is found.

5. Press the **Input Selector 5** again, and note that the red light will flash three times before going dark to confirm the entry.

6. Try all of the functions on the remote to make certain that the product operates. Keep in mind that many manufacturers use a number of different combinations of codes, and it is a good idea to make certain that not only the Power control works, but the volume, channel and transport controls, as appropriate. If all functions do not work properly, you may need to Auto-Search for a different code, or enter a code via the Direct Code Entry method.

Programming the Remote

Code Readout

When the code has been entered using the Auto Search method, it is always a good idea to find out the exact code so that it may be easily reentered if necessary. You may also read the codes to verify which device has been programmed to a specific Control Selector button.

1. Press and hold both the **Input Selector 5** for the device you wish to find the code for and the **Mute button 43** at the same time. Note that the **Program/SPL Indicator 3** will initially turn amber and begin flashing. Release the buttons and begin the next step within 20 seconds.

2. Press the **Set button 16**. The **Program/SPL Indicator 3** will then blink green in a sequence that corresponds to the three-digit code, with a one-second pause between each digit. Count the number of blinks between each pause to determine the digit of the code. One blink is the number 1, two blinks is the number 2, and so forth. Note that a rapid sequence of three blinks is used to indicate a "0."

Example: One blink, followed by a one-second pause, followed by six blinks, followed by a one-second pause, followed by four blinks indicates that the code has been set to 164.

For future reference enter the Setup Codes for the equipment in your system here:

DVD _____ CD _____

VID1/VCR _____ VID2/TV _____

VID3/CBL/SAT _____

TAPE _____

Learning Codes from a Remote

In addition to using codes from the remote's internal code library, the AVR5000's remote is able to "learn" codes from remotes that may not be in the code library. In addition, you may use this function to "learn over" the codes from a preprogrammed device to add functions not included in the preprogrammed codes. To learn or transfer codes from an IR remote to the AVR5000's remote, follow these steps:

1. Place the front of the original remote with the code being sent so that it is facing the **IR Transmitter Window 2** on the AVR5000 remote "head-to-head." The remotes should be between 2 and 4cm apart.

2. Select the button on the remote that you wish to use as the device selector for the codes about to be entered. This must be any of the **Input Selectors 5** (except for VID4).

3. Press the **Input Selector 5** button chosen and the **Learn Button 8** at the same time. Hold these buttons until the **Program/SPL Indicator 3** flashes amber and the light under the device selector button turns red. Release the buttons. It is important that you begin the next step within 20 seconds.

4. Press the button on the AVR5000 remote that you wish to program. Note that the **Program/SPL Indicator 3** will stop flashing.

Important Note: Codes cannot be taught to all buttons on the remote. The buttons with the following numbers are not learnable (for numbers, see drawing on page 11): 6, 7, 8, 36, 37, 9, 12, 33, 19, 29, 20, 21, 22, 23, 26, 27, 28.

5. As long as the **Program/SPL Indicator 3** is on, press and hold the button on the original remote that you wish to "teach" into the AVR5000 remote. When the **Program/SPL Indicator 3** turns green, release the button. Note that the Program Indicator will then begin to flash amber again.

NOTE: If the **Program/SPL Indicator 3** turns red during Step 5, the programming was not successful. Repeat the steps to see if the code will "take." If the indicator keeps flashing red in step 5, this code cannot be taught.

6. Repeat steps 4 through 5 for each button on the source remote that you wish to transfer to the AVR5000 remote.

7. Once all codes have been transferred from the original source remote to the AVR5000 remote, press the **Learn button 8**. This will turn off all LEDs and turn off the learning mode.

8. Repeat Steps 1 through 7 for any additional remotes you wish to "teach" into the AVR5000 Remote.

Erasing Learned Codes

The AVR5000's remote allows you to remove or erase the code learned into a single button for a single device, to remove or erase all the codes that have been learned for a single device, or to erase all commands that have been learned for all devices.

To erase a single learned code from within a single device's settings, follow these steps:

1. Press and hold both the **Input Selector 5 6 7** within which the individual button to be erased has been programmed and the **Learn button 8**.

2. When the red LED under the **Input Selector** turns red and the **Program/SPL Indicator 3** flashes amber, release the buttons.

3. Press and release the **Input Selector 5 6 7** again for the device within which the individual button to be erased has been programmed.

4. Press the 7 button **18** three times.

5. Press and release the individual button for which the code is to be erased. The **Program/SPL Indicator 3** will blink green two times and then return to amber.

6. To erase other buttons within the same device, press them as noted in Step 5.

7. When all buttons to be erased have been pressed, press the **Learn button 8** to complete the process.

To erase all codes within a single device, follow these steps:

1. Press and hold both the **Input Selector 5 6 7** for which you wish to erase the codes and the **Learn button 8**.

2. When the red LED under the **Input Selector** turns red and the **Program/SPL Indicator 3** flashes amber, release the buttons.

3. Press and release the same **Input Selector 5 6 7** again for the device whose codes you wish to erase.

4. Press the 8 button **18** three times.

5. The **Program/SPL Indicator 3** will turn off and the red light under the **Input Selector** will flash on and off once to indicate that the codes have been erased.

Programming the Remote

To erase all codes that have been programmed to all devices in the remote, follow these steps:

1. Press any **Input Selector** ⑤ ⑥ ⑦ and also the **Learn** button ⑧.
2. When the red LED under the **Input Selector** turns red and the **Program/SPL Indicator** ③ flashes amber, release the buttons.
3. Press and release the same **Input Selector** ⑤ ⑥ ⑦ again.
4. Press the 9 button ⑮ three times.
5. The **Program/SPL Indicator** ③ will turn off and the red light under the **Input Selector** will flash on and off once to indicate that the codes have been erased.

Macro Programming

Macros enable you to easily repeat frequently used combinations of commands with the press of a single button on the AVR 5000's remote control. Once programmed, a macro will send out up to 19 different remote codes in a pre-determined sequential order enabling you to automate the process of turning on your system, changing devices, or other common tasks. The AVR's remote can store up to five separate macro command sequences, one that is associated with the **Power On** button ①, and four more that are accessed by pressing the **Macro** buttons ②③.

1. Press the **Mute** button ④⑧ and the **Macro** button ②③ to be programmed or the **Power-On** button ① at the same time. Note that the latest selected **Input Selector** will light red, and the **Program/SPL Indicator** ③ will flash amber.
2. Enter the steps for the macro sequence by pressing the button for the actual command step. Although the macro may contain up to 19 steps, each button press, including those used to change devices, counts as a step. The **Program/SPL Indicator** ③ will flash green to confirm each button press as you enter commands.

NOTE: While entering commands for Power On of any device during a macro sequence, press the **Mute** button ④⑧. DO NOT press the actual Power ON button.

- Remember to press the appropriate **Input Selector** button ⑤ before functions are changed to another device. This is also needed for the **AVR Selector** button ⑥ itself, as long as it's not lit red and AVR functions shall be programmed.

3. When all the steps have been entered, press the **Sleep** button ⑩ to enter the commands. The red light under the **Input Selector** ⑤ ⑥ will blink and then turn off.

Example: To program the **Macro 1** ②③ button so that it turns on the AVR 5000, TV and a Sat-Receiver, follow these steps:

- Press the **Macro 1** button ②③ and **Mute** ④⑧ buttons at the same time and then release them.
- Note that the **Program/SPL Indicator** will flash amber.
- Press the **AVR Selector** ⑥.
- Press the **Mute** ④⑧ button to store the AVR's power on command.
- Press the **VID 2 Input Selector** button ⑤ to indicate the next command is for "TV Power On."
- Press the **Mute** ④⑧ button to store the TV Power On Command.

- Press the **VID 3 Input Selector** button ⑤ to indicate the next command is for "Sat-Receiver Power On."
- Press the **Mute** ④⑧ button to store the Sat-Receiver Power On command.
- Press the **Sleep/Channel Up** button ⑩ to complete the process and store the macro sequence.

After following these steps, each time you press the **Macro 1** button ②③, the remote will send all Power On commands.

Erasing Macro Commands

To remove the commands that have been programmed into one of the Macro buttons, follow these steps:

1. Press the **Mute** button ④⑧ and the **Macro** button ②③ that contains the commands you wish to erase.
2. Note that the **Program/SPL Indicator** ③ will flash amber, and the LED under the **AVR Selector** ⑥ will turn red.
3. Within ten seconds, press the **Surround Mode Selector/Channel Down** button ⑪.
4. The red LED under the **AVR Selector** will go out, and the **Program/SPL Indicator** ③ will turn green and flash three times before it goes out.
5. When the **Program/SPL Indicator** ③ goes out, the Macro has been erased.

Programming the Remote

Programmed Device Functions

Once the AVR5000's remote has been programmed for the codes of other devices, press the appropriate **Input Selector** ⑤ to change the remote from control over the AVR5000 to the additional product. When you press any of these buttons, it will briefly flash in red to indicate that you have changed the device being controlled.

When operating a device other than the AVR5000, the controls may not correspond exactly to the function printed on the remote or button. Some commands, such as the volume control, are the same as they are with the AVR5000. Other buttons will change their function so that they correspond to a secondary label on the remote. For example, the Sleep and Surround mode selector buttons also function as the Channel Up and Channel Down buttons when operating most TV sets, VCRs or Sat-Receivers.

For some products, however, the function of a particular button does not follow the command printed on the remote. In order to see which function a button controls, consult the Function List tables printed on page 44. To use those tables, first check the type of device being controlled (e.g., TV, VCR). Next, look at the remote control diagram on page 44. Note that each button has a number on it.

To find out what function a particular button has for a specific device, find the button number on the Function List and then look in the column for the device you are controlling. For example, button number 54 is the Macro 2 button for the AVR5000, but it is the "Favorite" button for many cable television boxes and satellite receivers. Button number 32 is the Delay button for the AVR5000, but the Open/Close button for CD players.

Note that the numbers used to describe the button functions at the left for the purposes of describing how a button operates are a different set of numbers than those used in the rest of this manual to describe the button functions for the AVR 5000.

Notes on Using the AVR5000 Remote With Other Devices.

- Manufacturers may use different code sets for the same product category. For that reason, it is important that you check to see if the code set you have entered operates as many controls as possible. If it appears that only a few functions operate, check to see if another code set will work with more buttons.
- Depending on the brand and product type used the functions listed in the Function List tables may not correspond with the function the unit reacts on the command. In these cases it's a good idea to edit the reaction of the unit into the corresponding line of the table or to set up a separate list.
- When a button is pressed on the AVR5000 remote, the red light under the **Input Selector** ⑤ for the product being operated should flash briefly. If the Device Control Selector flashes for some but not all buttons for a particular product, it does NOT indicate a problem with the remote, but rather that no function is programmed for the button being pushed.
- The remote was pre-programmed with codes for units of the latest generation, but some codes may differ from those needed for earlier units. When your device doesn't react as listed in the function list (page 44/45), let the AVR5000 remote learn the appropriate codes from the original remote (learning codes see page 40).

Volume Punch-Through

The AVR5000's remote may be programmed to operate the **Volume Control** ③④ and the **Mute** ③⑧ from either the TV or the AVR in conjunction with any of the six devices controlled by the remote. For example, since the AVR5000 will likely be used as the sound system for TV viewing, you may wish to have the AVR's volume activated although the remote is set to run the TV.

To program the remote for Volume Punch-Through, follow these steps:

1. Press the **Input Selector** ⑤ for the unit you wish to have associated with the volume control and the **Mute** button ③⑧ at the same time until the red light illuminates under the **Input Selector** ⑤ and note that the **Program/SPL Indicator** ③ will flash amber.
2. Press the **Volume Up** button ③④ and note that the **Program/SPL Indicator** ③ will stop flashing and stay amber.
3. Press either the **AVR Selector** ⑥ or the **Input Selector** ⑤, depending on which system's volume control you wish to have attached for the punch-through mode. The **Program/SPL Indicator** ③ will blink green three times and then go out to confirm the data entry.

Example: To have the AVR's volume control activated even though the remote is set to control the TV, first press the **Video/TV Input Selector** ⑤ and the **Mute** button ③⑧ at the same time. Next, press the **Volume Up** button ③④, followed by the **AVR Input Selector** ⑥.

NOTE: Should you wish to return the remote to the original configuration after entering a Volume Punch-Through, you will need to repeat the steps shown above. However, press the **Video/TV Input Selector** in steps one and three.

Programming the Remote

Channel Control Punch-Through

The AVR 5000's remote may be programmed to operate so that the channel control function for either the TV, cable or satellite receiver used in your system may be used in conjunction with one of the other devices controlled by the remote. For example, while using and controlling the VCR, you may wish to change channels on a cable box or satellite receiver without having to change the device selected by the AVR 5000 or the remote. To program the remote for Channel Control Punch-Through, follow these steps:

1. Press the **Input Selector** button **5** for the device you wish to have the channel control associated with and the **Mute** button **38** at the same time until the red light illuminates under the **Input Selector** **5** and the **Program/SPL Indicator** **3** flashes amber.

2. Press the **Volume Down** button **34**. The **Program/SPL Indicator** **3** will stop flashing and stay amber.

3. Press and release the **AVR** **6** or **Input Selector** button **5** for the device that will be used to change the channels. The **Program/SPL Indicator** **3** will blink green three times and then go out to confirm the data entry.

Example: To control the channels using your TV while the remote is set to control the VCR, first press the **VID 1/VCR Input Selector** button **5** and the **Mute** button **38** at the same time. Next, release them and press the **Volume Down** button **34**, followed by the **VID 2/TV Input Selector** button **5**.

NOTE: To remove the Channel Control Punch-Through and return the remote to its original configuration, repeat the steps shown in the example above. However, press the **VID 1/VCR Input Selector** in Steps 1 and 3.

Transport Control Punch-Through

The AVR 5000's remote may be programmed to operate so that the Transport Control Functions **24** (Play, Stop, Fast Forward, Rewind, Pause and Record) for a VCR, DVD or CD will operate in conjunction with one of the other devices controlled by the remote. For example, while using and controlling the TV, you may wish to start or stop your VCR or DVD without having to change the device selected by the AVR 5000 or the remote. To program the remote for Transport Control Punch-Through, follow these steps:

1. Press the **Input Selector** **5** for the device you wish to have the channel control associated with and the **Mute** button **38** at the same time until the red light illuminates, under the **Input Selector** **5** and the **Program/SPL Indicator** **3** flashes amber.

2. Press the **Play** button **24**. The **Program/SPL Indicator** **3** will stop flashing and stay amber.

3. Press and release the **AVR** **6** or **Input Selector** button **5** for the device that will be used to change the channels. The **Program/SPL Indicator** **3** will blink green three times and then go out to confirm the data entry.

Example: To control the transport of a CD player while the remote is set to control the TV, press the **VID 2/TV Input Selector** button **5** and the **Mute** button **38** at the same time. Next, release them and press the **Play** button **24**, followed by the **CD Input Selector** button **5**.

NOTE: To remove the Channel Control Punch-Through and return the remote to its original configuration, repeat the steps shown in the example above. However, press the **VID 2/TV Input Selector** in Steps 1 and 3.

NOTE: Before programming the remote for Volume, Channel or Transport Punch-Through, make certain that any programming needed for the specific TV, CD, DVD, Cable or Satellite Receivers has been completed.

Reassigning Device-Control Selectors

Although any of the **Input Selectors** **5** is normally assigned to the category of product shown on the remote, it is possible to reassign one of these buttons to operate a second device of another type. For example, if you have two VCRs but no cable box receiver, you may program the **CBL/SAT** **5** button to operate a second VCR. Before following the normal programming steps for either Three-Digit entry or Auto Search code entry, you must first reassign the button with the following steps:

1. Press the **Input Selector** **5** you wish to reassign and the **Mute** button **38** at the same time until the red light illuminates under the **Input Selector** **5** and the **Program/SPL Indicator** **3** flashes amber.

2. Press the **Input** or **Video Device Selector** **5** for the device, whose function you wish to program into the reassigned button.

3. Enter the three-digit code for the specific model you wish the reassigned button to operate.

4. Press the same **Input Selector** **5** pressed in Step 1 once again to store the selection. The red LED under the re-assigned Input Selector will flash three times and then go out.

Example: To use the CBL/SAT button to operate a second VCR, first press the **CBL/SAT Input Selector** **5** and the **Mute** button **38** at the same time until the red light glows under the

CBL/SAT **5** button. Press the **VCR** **5** button, followed by the three-digit code for the specific model you wish to control. Finally, press the **CBL/SAT** **5** button again.

Resetting the Remote Memory

As you add components to your home-theater system, occasionally you may wish to totally reprogram the remote control without the confusion of any commands, macros or "Punch-Through" programming that you may have done. To do this, it is possible to reset the remote to the original factory defaults and command codes by following these steps. Note, however, that once the remote is reset, all commands or codes that you have entered will be erased and will need to be re-entered:

1. Press any of the **Input Selector** buttons **5** and the **"0"** button **18** at the same time until the **Program/SPL Indicator** **3** begins to flash amber.

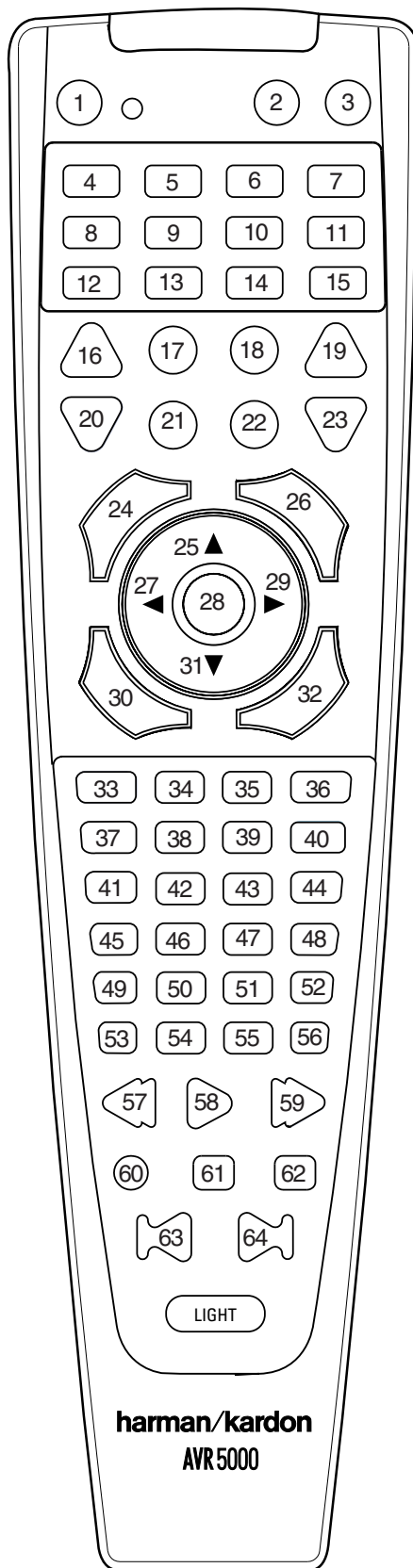
2. Press the **"3"** button **18** three times.

3. The red LED under the **Input Selector** **5** will go out and the **Program/SPL Indicator** **3** will stop flashing and turn green.

4. The **Program/SPL Indicator** **3** will remain green until the remote is reset. Note that this may take a while, depending on how many commands are in the memory and need to be erased.

5. When the **Program/SPL Indicator** **3** goes out, the remote has been reset to the factory settings.

Function List



No.	Button Name	AVR Function	DVD	CD/CDR
1	Power Off	Power Off	Power Off	Power Off
2	Power On	Power On	Power On	Power On
3	Mute	Mute		
4	AVR	AVR Select		
5	DVD	DVD Input Select	DVD Select	
6	CD	CD Input Select		CD Select
7	Tape	Tape Input Select		
8	VID 1	Video 1 Select		
9	VID 2	Video 2 Select		
10	VID 3	Video 3 Select		
11	VID 4	Video 4 Select		
12	Learn			
13	AM/FM	Tuner Select		
14	6 Ch. Select	6 Ch Input Select		
15	SPL	SPL		
16	Sleep	Sleep		
17	Test	Test Tone		-/Input Select
18	TV		TV/DVD	-/CDP Select
19	Volume Up	Volume Up	Volume Up	
20	Surround Select	Surround Mode Select		-/CDR Select
21	Night	Night Mode Select	Subtitle on/off	
22	Multi Room	Multi-Room Select	Sub on/off	
23	Volume Down	Volume Down	Volume Down	
24	Channel/Guide	Channel Trim	Title	
25	▲	Move/Adjust Up	Up	
26	Speaker/Menu	Speaker Adjust	Menu	Intro/-
27	◀	Move/Adjust Left	Left	
28	Set	Set	Enter	
29	▶	Move/Adjust Right	Right	
30	Digital/Exit	Digital Input Select	Open/Close	
31	▼	Move/Adjust Down	Down	
32	Delay/Prev. Ch.	Delay Adjust	Return	Open/Close
33	1	1	1	1
34	2	2	2	2
35	3	3	3	3
36	4	4	4	4
37	5	5	5	5
38	6	6	6	6
39	7	7	7	7
40	8	8	8	8
41	Tun-M	Tuner Mode	Chapter	Repeat
42	9	9	9	9
43	0	0	0	0
44	Memory	Memory	Audio	Time/CDR Display
45	Tune Up	Tune Up		
46	Direct	Direct Tuner Entry	Angle	Random
47	Clear	Clear	Clear	Clear
48	Preset Up	Preset Tune Up	Slow Forward	+10/-
49	Tune Down	Tune Down		-/Track Increment
50	OSD	OSD		
51	D. Skip		Disc Skip	Disc Skip
52	Preset Down	Preset Tune Down	Slow Rev	
53	M1			
54	M2			
55	M3			
56	M4			
57	Rewind		R. Search	R. Search
58	Play		Play	Play
59	Fast Forward		F. Search	F. Search
60	Record			-/Record
61	Stop		Stop	Stop
62	Pause		Pause	Pause
63	Skip Down		Skip -	Skip -
64	Skip Up		Skip +	Skip +

Function List

No.	Button Name	Tape	VCR (VID 1)	TV (VID 2)	CBL (VID 3)	SAT(VID 3)
1	Power Off	Power Off	Power Off	Power Off	Power Off	Power Off
2	Power On	Power On	Power On	Power On	Power On	Power On
3	Mute			Mute		
4	AVR					
5	DVD					
6	CD					
7	Tape	Tape Select				
8	VID 1		VCR Select			
9	VID 2			TV Select		
10	VID 3				VID 3 Select	
11	VID 4					
12	Learn					
13	AM/FM					
14	6 Ch. Select					
15	SPL					
16	Sleep		Channel +	Channel +	Channel +	Channel +
17	Test					
18	TV		TV/VCR	TV/VCR	TV/Cable	TV/Sat
19	Volume Up		Volume Up	Volume Up		
20	Surround Select		Channel –		Channel –	Channel –
21	Night					
22	Multi Room					
23	Volume Down			Volume Down		
24	Channel/Guide				Info/Guide	Info/Guide
25	▲		Up	Up	Up	Up
26	Speaker/Menu		Menu	Menu	Menu	Menu
27	◀		Left	Left	Left	Left
28	Set		Enter	Enter	Enter	Enter
29	▶		Right	Right	Right	Right
30	Digital/Exit		Exit	Exit	Exit	Exit
31	▼		Down	Down	Down	Down
32	Delay/Prev. Ch.			Prev Channel	Prev Channel	Prev Channel
33	1		1	1	1	1
34	2		2	2	2	2
35	3		3	3	3	3
36	4		4	4	4	4
37	5		5	5	5	5
38	6		6	6	6	6
39	7		7	7	7	7
40	8		8	8	8	8
41	Tun-M					
42	9		9	9	9	9
43	0		0	0	0	0
44	Memory					
45	Tune Up					
46	Direct					
47	Clear		Clear	Clear	Clear	Clear
48	Preset Up					
49	Tune Down					
50	OSD		OSD	OSD	OSD	OSD
51	D. Skip					
52	Preset Down					
53	M1		Cancel	Sleep	PPV	Cancel
54	M2				Fav	Fav
55	M3				Bypass	Next
56	M4				Music	Alt
57	Rewind	Rewind	Rewind		Day –	Say –
58	Play	Play	Play			
59	Fast Forward	Fast Fwd	Fast Fwd		Day +	Day +
60	Record	Record/Rec.Pause	Record			
61	Stop	Stop	Stop			
62	Pause		Pause			
63	Skip Down		Scan –		Page –	Page –
64	Skip Up		Scan +		Page +	Page +

Setup Code Table: TV

Maker (Brand) Name	Code Number (3digit) List																		
AIWA	340	341																	
AKAI	019	049	050	063	102	123	133	139	141	150	174	182	195	209	225	281	288		
ALBA	044	049	050	123	134	163	179	184	195	225	228	239							
AMSTRAD	004	011	195																
ARC EN CIEL	029	034	074	182	186														
ARCAM	029	272																	
ASTRA	195																		
ATLANTIC	050	113	236	242	272														
AUDIOSONIC	031	076	195																
BANG & OLUFSEN	279																		
BARCO	310	326	327																
BEKO	063	184	240	241															
BLAUPUNKT	019	053	057	060	113	118	244	245	246	248	249	263							
BRANDT ELECTRONIQUE	029	034	074	182	186														
BRION VEGA	065	083	167	173	181	196	311												
BRIONVEGA	279																		
BRITANNIA	272																		
BRUNS	056	065	279																
BSR	094	110	139	168	269														
BUSH	006	018	049	123	134	139	142	143	179	195	223	225	226	239	262	287			
BUSH(UK)	107	147	168																
CGE	002	044	054	090	093	094	096	139	142	163	168	189	309	324					
CLATONIC	076	123																	
CONDOR	050	113	272																
CROWN	154																		
CTC CLATRONIC	045																		
DAEWOO	063	140	145	161	193	195													
DECCA(UK)	046	050	102	106	131														
DUAL	050	095	139	156	168	243													
DUAL-TEC	040	050	168	195															
DUMONT	045	065	080	139	146	274	279	294	296	308	330								
DUMONT-FINLUX	020	045	061	075	078	091	104	117	147										
DYNATRON	049	063																	
ELBE	121	194	292	323	324														
ELTA	195																		
EMERSON	004	044	065	279	282														
EUROPHON	044	045	046	050	068	120	168	273	291										
EXPERT	242																		
FERGUSON	001	032	050	073	074	076	080	082	102	103	121	158	204	244					
	245	246	251	258	261	274	276	277	283	284	290	299	304						
FIDELITY(UK)	133	304																	
FINLANDIA	033	122	223	262															
FINLUX	003	020	045	061	075	078	080	090	091	104	117	139							
	146	147	163	197	235	274	279	294	296	308	330								
FISHER	050	056	065	069	104	117	139	143	156	189	206	275	279						
FUJITSU	282																		
FUNAI	076	094	269	282															
GEC	104	120	171	262															
GEC(UK)	046	050	102	107	150	162	192												
GOLDSTAR	050	055	063	107	139	152	155	168	195	202	203	219	254	272					
GOODMANS	018	063	102	139	143	155													
GORENJE	124	189																	
GRAETZ	090	104	136	139	153	159	162	171	198	262									
GRANADA	018	033	063	102	104	105	112	120	148	171	209	237	238	240	241	262	280	318	
GRANADA(UK)	046	050	090	107	139	143	162	262											
GRUNDIG	005	019	053	080	090	101	115	118	166	244	245	246	247	248	249	263	295	296	

Setup Code Table: TV (continued)

Maker (Brand) Name	Code Number (3digit) List																	
HANSEATIC	018	049	050	063	104	107	113	143										
HIFIVOX	029	034	074	182	186	259												
HITACHI	007	009	018	020	023	033	050	074	086	104	107	110	126	127	139	143	150	162
	168	171	176	182	185	186	192	212	218	231	259	262	264	270	288	289	299	316
IMPERIAL	002	044	054	090	093	094	142	163	168	189	262	309	324					
INTERVISION	342	343	344	345	346	347	348	349	350	351	352	353						
INTERFUNK	049	063	065	074	090	104	112	139	150	153	159	182	256	262	279	318		
ITT	090	117	134	139	150	157	162	171	193	198	209	256	262	287	298	305		
ITT-NOKIA	090	097	104	117	134	136	139	150	153	159	162							
	171	172	185	193	198	209	256	262	287	298	305							
JVC	018	103	123	129	143	158	170	174	182	225	287	319						
KARCHER	003	020	031	050	068	107	195	207	217									
KATHREIN	124																	
KENDO	044	045																
KORTING	027	065	094	113	279													
LOEWE	089																	
LOEWE OPTA	035	046	049	052	063	065	120	144	213	279								
LUXOR	050	090	107	122	127	133	139	150	155	159	172	185	209	262	267			
MAGNADYNE	045	046	047	062	065	104	120	139	150	168	265	273	279					
MARANTZ	063																	
MARELLI	279																	
METZ	019	051	053	065	067	070	092	118	169	244	245	246	279					
MINERVA	019	053	080	090	118	244	245	246	248	249	295	296						
MITSUBISHI	013	018	019	021	049	063	065	105	124	131	132	143						
	157	164	183	244	245	246	252	266	281	285	286	287						
MULTITECH	031	045	046	050	120	189	195	265										
MURPHY(UK)	162																	
NAD	209																	
NATIONAL	033	085	104															
NEC	018	143	177															
NECKERMANN	002	050	065	107	133	139	180	189	250	262	279	312						
NOKIA	090	104	117	134	136	139	150	153	157	159								
	162	171	193	198	209	256	262	287	298	305								
NORDMENDE	017	029	034	038	074	083	130	150	165	174	182	186	218	259	262	288	289	
OCEANIC	104	108	109	116	139													
OCEANIC(F)	150																	
OPTONICA	190																	
ORION	004	051	094	131	134	139	150	179	191	195	199	216	269	286	321	322		
OSAKI	066	102	123															
OTTO VERSAND	018	049	050	053	063	104	107	139	143	244	245	246	250	287	312	317		
PANASONIC	016	033	039	085	099	104	135	137	149	150	151	262	270					
PATHE' CINEMA	113	121																
PATHE' CINEMA(F)	050	168																
PATHE' MARCONI	029	034	074	182	186													
PHILCO	002	016	044	054	065	090	093	094	104	142	163	168	189	279	309	324		
PHILIPS	015	022	049	050	063	065	079	089	111	112	157	158	160	175	188	192		
	215	217	220	221	250	268	271	272	279	292	297	304	305	318	328	329		
PHOENIX	050	075	104	113	148	279												
PIONEER	049	063	074	182	209	218	227	262										
PROLINE	030	049	102	191	321													
PROTECH	063	076	139															
QUELLE	003	019	020	037	049	050	053	063	075	078	080	090	091	094	113	115	117	
	118	131	139	146	147	150	153	155	235	244	245	246	254	256	274	295	296	
RADIOLA	050	063	065	079	112	158	160	188	250	297								
RADIOMARELLI	045	046	047	062	063	065	104	105	150	168								
RANK	147																	

Setup Code Table: TV (continued)

Maker (Brand) Name	Code Number (3digit) List																			
RBM(UK)	147																			
REDIFFUSION	059	105	139	171	262	266	298													
REDIFFUSION(UK)	150	162																		
REDIFUSION	104	105																		
REX	036	040	063	071	079	095	110	138	171	236	242	243	260	262	278	293				
RFT	354	355	356	357	358	359														
ROADSTAR	031	195																		
ROTEL	257																			
RTF	056	065																		
SABA	014	017	025	029	034	038	046	065	074	077										
	120	133	178	182	186	218	259	262	279	288	289									
SALORA	033	075	107	127	133	136	139	148	150	153	171	172	185	198	209	256	262	267		
SAMPO	135																			
SAMSUNG	050	063	066	076	102	155	189	195	217	314	315	320								
SANYO	003	018	020	041	050	056	065	102	117	131	143									
	189	198	201	206	209	257	275	280	286	287	306									
SBR	063	112	157	158	192	268	271													
SCHAUB LORENZ	090	104	136	139	153	159	162	171	198	262										
SCHNEIDER	031	040	050	063	065	069	079	095	104	112	114	139								
	148	156	158	160	168	188	243	250	262	271	283	297								
SCOTT	282																			
SEG	045	050	056																	
SELECO	036	040	063	071	079	095	110	138	171	236	242	243	260	262	278	293	294	324		
SHARP	018	094	143	190	206	214	257	317	319											
SIEMENS	003	018	019	023	053	066	113	118	206	244	245	246	247	248	249	257	262			
SILVER	076																			
SINGER	045	047	065	104	279	324														
SONY	012	018	028	131	143	204	208	211	286	312	313	325								
SOUND WAVE	049	113	163																	
STANDARD	050																			
STERN	036	040	063	071	079	095	110	138	171	236	242	243	260	262	278	293				
TANDBERG	065	078	169	182	259															
TANDY	050	096	102	123	190	262														
TEC	040	050	168	243																
TELEFUNKEN	032	037	064	074	082	178	182	186	187	218	290									
TELETECH	195																			
TELETON	236																			
TENSAI	050	063	117	123																
THOMSON	008	010	017	029	034	074	134	147	174	182	186	218	230	234	259	264	288	289		
THORN	053	103	158	222	276	304														
THORN-FERGUSON	032	073	074	076	080	082	103	121	158	178	258	261								
	274	276	277	283	284	290	304	308	312	313	319	330								
TOSHIBA	001	018	128	141	143	147	205	287	296	324										
TRISTAR	304 319																			
TRIUMPH	004	046	147	235	294															
UHER	069	080	090	113	147	148	236	242	262											
ULTRAVOX	044	045	047	050	065	104	133	139	279											
UNIVERSUM	003	020	076	155	202	235	244	245	246	308	312	330								
VESTEL	125	319																		
VOXSON	065	090	171	262	279															
WALTHAM	262																			
WATSON	113	244	245	246																
WATT RADIO	045	050	068	104	121	139	150	265	272	291										
WEGA	018	139	143	279																
WEGA COLOR	065	088																		
WELTBlick	063																			

Setup Code Table: TV (continued)

Maker (Brand) Name	Code Number (3digit) List
WESTINGHOUSE	063 094 272
WESTON	168
YOKO	050 195
ZANUSSI	036 040 063 071 079 095 110 138 171 236 260 262 278 293

Setup Code Table: VCR

Maker (Brand) Name	Code Number (3 digit) List
AIWA	039 044 055 073 112 116 121 148 152
AKAI	028 035 044 053 070 090 092 103 124 133 149 150 155
AKURA	029 112
ALBA	029 061 073 114 119 120 121 136 144
AMSTRAD	039 107 119 148
ANITECH	155
ARC EN CIEL	044 045 090
ARISTONA	049 091 109
ASTRA	148
ASTRO SOUND	155
ATLANTIC	155
AUDIOSONIC	170 171
BANG & OLUFSEN	044 155
BAUR	054 134 155 156 157 158
BLAUPUNKT	086 091 098 107 109 129 137 140 147
BRANDT ELECTRONIQUE	044 045 090
BRAUN	147
BRION VEGA	160 139
BUSH	028 029 061 073 119 120 121 136 144
BUSH(UK)	134
CANON	147
CONDOR	155
CROWN	009 061 144
CROWN/ONWA	148
DAEWOO	009 061 063 064 068 069 144 155
DECCA	039 044 048 148 155
DECCA(UK)	054
DEGRAAF	015 018 039 049 054 148
DUAL	044 090 128 148 155
DUMONT	015 039 054 148 155
DYNATECH	039 148
ELBE	036 148
ELTA	148
EMERSON	011 032 039 060 062 073 127 148 155
FERGUSON	003 005 044 083 085 090 094 100 104 108 122 130 131 135 138
FINLADIA	015 054
FINLUX	015 018 019 039 044 049 053 054 103 107 143 146 147 148 149 159

Setup Code Table: VCR (continued)

Maker (Brand) Name	Code Number (3 digit) List																
FISHER	008	015	019	032	034	160											
FUJITSU	148																
FUNAI	039	148															
GRANADA(UK)	107																
GBC(UK)	054	084															
GEC	160																
GOLDSTAR	036	055	134	148	155												
GOODMANS	029	039	042	050	054	055	061	073	144	148	155						
GRAETZ	044	045	084	090	106												
GRAETZ(ITT)	160																
GRANADA	001	015	019	049	109	147	149	155	160	162							
GRANADA(UK)	018	054	134	140													
GRUNDIG	054	086	091	097	098	099	109	140	143								
HANSEATIC	054	134	155	160													
HARMAN/KARDON	036																
HIFIVOX	044	045	090														
HITACHI	018	025	039	044	074	087	090	134	138	149	160						
IMPERIAL	039	042	096	148	155												
INTERFUNK	054	084	155	160													
INTERVISION	148	155															
ITT	015	019	042	044	084	090	103	133	139								
ITT/NOKIA	149	150	155	160	162												
ITT-NOKIA	015	019	042	044	045	084	090	103	106	133	139						
JENSEN	044																
JVC	001	004	007	010	044	045	047	085	090	112	115	133	135	141			
KARCHER	042	054	134	155													
KENDO	103																
KENWOOD	019	044	047	112													
KOENIG	159																
KOERTING	155																
KUBA	147	148															
LLOYD	039	148															
LOEWE	065																
LOEWE OPTA	054	082	091	109	140	155											
LUXOR	103	106	134	149	160												
MAGNADYNE	054	155	159	160													
MAGNAVOX	060	062															
MARANTZ	036	050	054	073	091	109	111	140									
MEMOREX	008	015	019	039	049	055	148										
METZ	091	098	105	109	140												
MINERVA	086	098	109	140													
MITSUBISHI	047	053	054	076	098	123	154	155									
MULTITECH	021	029	039	054	098	144	148	155									
NATIONAL	107																
NEC	036	044	047	090													
NECKERMANN	011	019	042	044	054	090	109	127	133	134	139	140	155	156	157	158	160
NESCO	148																
NOKIA	015	019	042	044	045	084	090	103	106	133	139						
NORDMENDE	004	007	010	014	016	020	022	023	037	039	044	045					
	047	090	095	097	101	102	125	126	128	132	133	141	142				
OCEANIC (ITT)	160																
OPTONICA	049	050															
ORION	011	031	032	033	059	073	078	127	148	155							
OSAKI	039	055	148	155													
OTTO VERSAND	054	098	134	147	155	156	157	158	159								
PALLADIUM	148	160															

Setup Code Table: VCR (continued)

Maker (Brand) Name	Code Number (3 digit) List												
PANASONIC	017	071	084	088	089	107	129	137	147	148	160		
PATHE' MARCONI	044	045	090										
PHILIPS	006	041	043	046	049	050	054	065	079	082	091	109	145 146 155
PIONEER	047	054	113	145									
PROLINE	039	148											
QUELLE	011	042	044	048	054	055	098	107	109	127	139	140	
RADIOLA	049	091	109										
RCA	060	062											
REALISTIC	008	015	019	039	042	049	050	147	148				
REDIFFUSION	160												
REX	004	007	044	045	090								
ROADSTAR	029	042	055	148									
SABA	004	007	009	012	013	014	016	022	023	044			
	045	047	090	102	125	128	132	133	142				
SALORA	001	019	053	134	162								
SAMSUNG	009	042	054	056	057	060	062	066	067	092	096	150	155
SANSUI	044	047											
SANYO	002	008	015	019	040	073	106	149	151	160			
SBR	054	079	082										
SCHAUB LORENZ	044	045	084	090	106	160							
SCHNEIDER	029	039	042	049	054	091	096	109	148	155	160		
SEG	042	096	148										
SELECO	044	045	090	155									
SHARP	049	050	058	075	148								
SIEMENS	019	086	091	098	106	109	140						
SINGER	155												
SONY	039	048	051	052	077	081	156	157	158				
SUNSTAR	039	148											
SUPERTEC	148	155											
SYLVANIA	039	053	148										
TANDBERG	032	127											
TEAC	039	044	148										
TEC	148	155											
TECHNICS	107	147											
TELEFUNKEN	004	007	016	024	026	038	044	045	090	128	132		
	133												
TELERENT	147	148											
TENSAI	148	155											
THOMSON	016	020	044	045	047	090	126	128	133	141			
THORN	044	085	090	110	135								
THORN-FERGUSON	004	022	023	044	083	085	090	094	100	104	108		
	130	131	133	135	149	155	156	157	158	160	162		
TOSHIBA	009	044	045	053	080	090	153	155					
TRANSONIC	155												
UHER	042	044	096										
ULTRAVOX	139	155	159	160									
UNITECH	042												
UNIVERSUM	147	148	149	155	156	157	158	160					
W.WESTINGHOUSE	160												
WATSON	155	159											
WELTBlick	155												
WHITE WESTINGHOUSE	139												
YAMAHA	036	044											
YOKO	042	098	148	155									
ZANUSSI	044	045	090										
ZENDER	090												

Setup Code Table: CD

Maker (Brand) Name	Code Number (3 Digit) List														
AIWA	072	111	118	156	170										
AKAI	050	177	184												
ARCAM	220														
AUDIOMECA	220														
BSR	044	064													
CALIFORNIA AUDIO	015	109													
CAPETRONIC	070														
CROWN	042														
DENON	187	188	212												
FISHER	023	055	057	068											
FUNAI	126														
GOLDSTAR (LG)	016	087													
GRUNDIG	220	224	225	226	227										
HAITAI	099	214													
HARMAN KARDON	001	002	025	040	054	190	218	219							
HITACHI	049	093													
JVC	029	176	195	196											
KENWOOD	014	020	023	030	062	078	079	148	151	176	178	181			
KYOCERA	012														
LINN	220														
LUXMAN	018	035	077	102											
MAGNAVOX	039	051	113												
MARANTZ	043	051	058	084	191	192	193								
MBL	184	062													
MCINTOSH	194														
MERIDIAN	220														
MISSION	051														
mitsubishi	032														
MITSUMI	152														
NAD	013	074	197	198											
NAIM	220														
NAKAMICHI	199	200	201	225											
NEC	021	069													
ONKYO	037	038	045	046	171	175	202	203							
PANASONIC	015	075	109	119	158	183	204								
PHILIPS	039	051	138	149	209										
PIONEER	017	036	071	094	096	100	112	123	131	160	161	162	215		
PRIMARE															
PROTON	051	210													
REALISTIC	049	056	057	058	093	095	104	105	108	164	166				
REVOX	220	229													
ROTEL	051														
SAE	051														
SAMSUNG	028														
SANSUI	047	051	081	134	157	172									
SANYO	033	057	068	082	095	168									
SHARP	020	058	073	105	114	151	159	167	180	181					
SHERWOOD	003	026	027	041	058	105	133	230	231	232	233				
	234	235	236	237	238	239	240	241	242	243					
SIGNATURE	040														
SONY	060	103	115	116	118	132	139	163	205	206	207	208	212	217	
T&A	221														
TEAC	011	022	048	058	085	086	106	107	110	121	137	146	154		
TECHNICS	244	245	246	247	248	249	250								
THETA DIGITAL	039														
THOMSON	217														

Setup Code Table: CD (continued)

Maker (Brand) Name	Code Number (3 Digit) List
THORENS	220
TOSHIBA	013 074 097 151 155 173
UNIVERSUM (QUELLE)	220 222 223
YAMAHA	019 031 053 061 135 169

Setup Code Table: CBL

Maker (Brand) Name	Code Number (3digit) List
BT CABLE	007
CABLETIME	008 011 012 016
CLYDE CABLE VISION	017
DECSAT CANAL	010
FILMNET	018 019 020
FRANCE TELECOM	013 021
GEC	017
JERROLD	001 022
MOVIE TIME	028
NSC	028
PHILIPS	023
PIONEER	002
SALORA	003
SAMSUNG	002 024
SATBOX	004
SCIENTIFIC ATLANTA	005 006 025 026
STS	028
TELESERVICE	011 014
TUDI	027
UNITED CABLE	001
VISIOPASS	009
WESTMINSTER CABLE	007
ZENITH	014

Setup Code Table: SAT

Maker (Brand) Name	Code Number (3digit) List												
AIWA	141												
AKAI	033												
ALBA	001	017	024	056	070	111	115	117	126				
AMSTRAD	071	097	128	132									
ANKARO	051	121	133										
ASTRA	068	098	099										
ASTRO	175	176	177	178	179	180	181	182					
BLAUPUNKT	038	090											
BRUNS	133												
BUSH	024	048	056	070	077	106	126						
BUSH(UK)	053												
CAMBRIDGE	060												
CAMBRIDGE ARD200	104												
ECHOSTAR	016	021	047	050	065	066	072	086	131				
ELTASAT	059												
FERGUSON	045	048	052	053	063	064	067	077	106	108	111	124	
FINLUX	009	010											
FTE	080	136	137										
FUBA	014	047	121	128	131								
G SAT	130												
GALAXIS	133												
GOLDSTAR	079	107											
GOODMANS	111												
GRAETZ	088	099											
GRANADA	099												
GRUNDIG	003	038	053	067	090								
HIRSCHMANN	009	038											
HITACHI	106	111	120										
HUTH	133												
IMPERIAL	126												
ITT	067	069	099	120	123								
ITT-NOKIA	021	067	088	099	120	123							
KATHREIN	001	033	080	081	090	091	096	100	110	112	114	118	
KOSMOS	080												
LEMON	161												
LENCO	079												
LOEWE	174												
LORENZEN	160	161	162	163	164								
LUXOR	043	088	095	099	120	123	125	129	130	131			
MARANTZ	033												
MASPRO	002	049	053	093	096	106	108	113					
METZ	090												
MINERVA	090												
MITSUBISHI	090												
MULTISTAR	080												
NEC	030	036	046	073									
NOKIA	067	088	099	105	120	123							
NORSAT	046												
OTTO VERSAND	090												
PACE	011	048	053	063	064	067	124						
PACE MSS SERIES	067												
PANASONIC	031	124											
PHILIPS	019	032	033	053	121	124							
PTT TELECOM	041												
QUADRAL	165	166	167	168	169	170	171	172	173				
QUELLE	090												

Setup Code Table: SAT (continued)

Maker (Brand) Name	Code Number (3digit) List
RADIOLA	053
RADIX	047
SAKURA	054 057
SALORA	034 068 088 095 099 120 130 131
SAMSUNG	080 127 132
SAT	127
SCHAUB LORENZ	088 099
SCHNEIDER	053
SIEMENS	038 090
SKY MASTER	133
SKYLAB	121
TANDBERG	008
TANDY	085 122
TECHNISAT	005 006 028 047 084 102 103
TELECOM	041
TELEFUNKEN	083
THORN-FERGUSON	023 045 048 052 053 063 064 067
VORTEC	082 083 132 142
WISI	004 022 026 027 047 123 127 131
ZEHNDER	080 127
ZENITH	044

Setup Code Table: DVD

Maker (Brand) Name	Code Number (3 Digit) List
CALIFORNIA AUDIO	040
DENON	002 019 022 034
GE	003 004
GOLDSTAR (LG)	005
HARMAN KARDON	001 032
JVC	006
KENWOOD	007
MAGNAVOX	009 033
MARANTZ	033
MITSUBISHI	023 036
NAD	010
ONKYO	015
PANASONIC	024 025 034 035
PHILIPS	033
PIONEER	012 020 038 041 042
RUNCO	027
SAMSUNG	031
SANYO	013
SHARP	021 028
SONY	014 029
TECHNICS	026
THOMSON	003 004 051
TOSHIBA	033
YAMAHA	016 017 030

Troubleshooting Guide

SYMPTOM	CAUSE	SOLUTION
Unit does not function when Main Power Switch is pushed	<ul style="list-style-type: none"> No AC Power 	<ul style="list-style-type: none"> Make certain AC power cord is plugged into a live outlet Check to see if outlet is switch controlled
Display lights, but no sound or picture	<ul style="list-style-type: none"> Intermittent input connections Mute is on Volume control is down 	<ul style="list-style-type: none"> Make certain that all input and speaker connections are secure Press Mute button Turn up volume control
Sound is heard, but Front-Panel Display does not light	<ul style="list-style-type: none"> Display brightness is turned off 	<ul style="list-style-type: none"> Follow the instructions in the Display Brightness section on page 36 so that the display is set to VFD FULL
No sound from any speaker; light around power switch is red	<ul style="list-style-type: none"> Amplifier is in protection mode due to possible short Amplifier is in protection mode due to internal problems 	<ul style="list-style-type: none"> Check speaker-wire connections for shorts at receiver and speaker ends Contact your local Harman Kardon service depot
No sound from surround or center speakers	<ul style="list-style-type: none"> Incorrect surround mode Incorrect configuration Stereo or Mono program material Speakers not properly connected 	<ul style="list-style-type: none"> Select a mode other than Stereo Check speaker mode With (analog or digital) Dolby surround modes, the surround decoder may not create rear-channel information from nonencoded programs Check speaker-wire connections or use test tone to verify connections (see page 25)
Unit does not respond to remote commands	<ul style="list-style-type: none"> Weak batteries in remote Wrong device selected Remote sensor is obscured 	<ul style="list-style-type: none"> Change remote batteries Press the AVR selector Make certain front-panel sensor is visible to remote or connect remote sensor
Intermittent buzzing in tuner	<ul style="list-style-type: none"> Local interference 	<ul style="list-style-type: none"> Move unit or antenna away from computers, fluorescent lights, motors or other electrical appliances
Letters flash in the Channel Indicator Display and Digital Audio stops	<ul style="list-style-type: none"> Digital audio feed paused 	<ul style="list-style-type: none"> Resume play for DVD Check that Digital Signal is fed to the Digital Input selected
HDCD encoded disc does not trigger HDCD indicator	<ul style="list-style-type: none"> Surround mode in use Analog feed in use 	<ul style="list-style-type: none"> Select "Surround Off" mode Connect and select digital connection to CD player

Processor Reset

In the rare case where the unit's operation or the displays seem abnormal, the cause may involve the erratic operation of the system's memory or microprocessor.

To correct this problem, first unplug the unit from the AC wall outlet and wait at least three minutes. After the pause, reconnect the AC power cord and check the unit's operation. If the system still malfunctions, a system reset may clear the problem.

To clear the AVR5000's entire system memory including tuner presets, output level settings, delay times and speaker configuration data, first put the unit in Standby by pressing the **System Power Control** button **2**. Next, press the **Tone Mode** **6** and the **RDS** **12** buttons simultaneously.

The unit will turn on automatically and display the **RESET** message in the **Main Information Display** **Y**. Note that once you have cleared the memory in this manner, it is necessary to re-establish all system configuration settings and tuner presets.

NOTE: Resetting the processor will erase any configuration settings you have made for speakers, output levels, surround modes, digital input assignments as well as the tuner presets. After a reset the unit will be returned to the factory presets, and all settings for these items must be reentered.

If the system is still operating incorrectly, there may have been an electronic discharge or severe AC line interference that has corrupted the memory or microprocessor.

If these steps do not solve the problem, consult an authorized Harman Kardon service depot.

Technical Specifications

Audio Section

Stereo Mode	
Continuous Average Power (FTC)	
80 Watts per channel, 20Hz–20kHz,	
@ < 0.07% THD, both channels driven into 8 ohms	
Five-Channel Surround Modes	
Power Per Individual Channel	
Front L&R channels:	
70 Watts per channel,	
@ < 0.07% THD, 20Hz–20kHz into 8 ohms	
Center channel:	
70 Watts, @ < 0.07% THD, 20Hz–20kHz into 8 ohms	
Surround channels:	
70 Watts per channel,	
@ < 0.07% THD, 20Hz–20kHz into 8 ohms	
Input Sensitivity/Impedance	
Linear (High Level)	200mV/47kohms
Signal-to-Noise Ratio (IHF-A)	95dB
Surround System Adjacent Channel Separation	
Analog Decoding	40dB
(Pro Logic, etc.)	
Dolby Digital (AC-3)	55dB
DTS	55dB
Frequency Response	
@ 1W (+0dB, –3dB)	10Hz– 100kHz
High Instantaneous	
Current Capability (HCC)	±45 Amps
Transient Intermodulation	
Distortion (TIM)	Unmeasurable
Rise Time	16 µsec
Slew Rate	40V/µsec**

FM Tuner Section

Frequency Range	87.5–108MHz
Usable Sensitivity	IHF 1.3 µV/13.2dB
Signal-to-Noise Ratio	Mono/Stereo: 70/65dB (DIN)
Distortion	Mono/Stereo: 0.15/0.3%
Stereo Separation	35dB @ 1kHz
Selectivity	±300kHz: 65dB
Image Rejection	80dB
IF Rejection	90dB

AM Tuner Section

Frequency Range	520–1611kHz
Signal-to-Noise Ratio	45 dB
Usable Sensitivity	Loop: 500µV
Distortion	1kHz, 50% Mod: 0.8%
Selectivity	±9kHz: 30dB

Video Section

Video Format	PAL/NTSC
Input Level/Impedance	1Vp-p/75 ohms
Output Level/Impedance	1Vp-p/75 ohms
Video Frequency	
Response	10Hz–8MHz (–3dB)

General

Power Requirement	AC 220-240V/50Hz
Power Consumption	78W idle, 694W maximum
Dimensions (Max)	
Width	440mm
Height	167mm
Depth	435mm
Weight	15.9 kg

Depth measurement includes knobs, buttons and terminal connections.
Height measurement includes feet and chassis.
All features and specifications are subject to change without notice.

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**Without input anti slewing and output isolation networks.

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